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The editors of the *Journal* take pleasure in announcing that beginning with the present issue Professor A. E. Monroe has become a member of the staff as Assistant Editor.

THE
QUARTERLY JOURNAL
OF
ECONOMICS

FEBRUARY, 1929

CARRIER PROPERTY CONSUMED IN
OPERATION AND THE REGULATION
OF PROFITS

A DISCUSSION OF THE I.C.C. REPORT
ON DEPRECIATION

SUMMARY

I. Introduction, 193. — II. The questions considered, 196. — The rate base: present value v. prudent investment, 197. — The investor's viewpoint. What is security? 200. — III. The basis for consumption charges, 203. — IV. The case for a general depreciation scheme, 208. — Past depreciation, 211. — V. Depreciation schemes. Defects of the straight-line method, 215. — VI. Only compelling need could justify, 217. — VII. Conclusions; alternatives, 218.

I

IN determining whether a given rate structure of a carrier is compensatory or confiscatory, it is necessary to make two allowances on account of carrier property: first an allowance for the use, and second an allowance for the consumption, of property in rendering service. Some property may be indestructible, so that no allowance under the second head is called for; other property may be consumed so rapidly that there is no charge under the first head on account of it. But in most classes of property both allowances are necessary.

It is generally agreed that the charge for use should be in the form of interest or return at a percentage rate upon a fair capital value for the property employed in rendering service, often called the rate base. Controversy arises over the questions how the capital value — the rate base — should be computed and upon what principles the rate of return thereon should be determined. In respect to the allowance for consumption of property the questions arise, upon what basis the allowance should be made in money and whether it should be made (in the case of property whose useful life extends over a considerable period) as the consumption proceeds, when it becomes complete, or when it is made good.

Now, while much has been written and conflicting views have been expressed by courts, commissions, economists and others on the questions how the rate base should be computed and how the rate of return to be applied to that rate base should be determined, and also upon the question whether the allowance for consumption should or should not be made as consumption proceeds (or, as it is commonly phrased, upon a depreciation basis), comparatively little consideration has been given to the question how the money value of property consumed should be computed. Some consideration of it might have been expected in connection with the determination of the extent to which depreciation charges should form a part of railroad accounting, which was required of the Interstate Commerce Commission under the Transportation Act of 1920. The Commission instituted an inquiry (Case 15,100) and held extensive hearings. But in the decision that the Commission rendered under date of November 2, 1926, the question how the money value of property consumed should be computed was scarcely discussed. The Commission passed it over in the following language:

There also can be *no doubt that the cost* of such worn-out or abandoned property units is a part of operating expense to be charged against the service. The basic question is whether such cost should be charged in bulk at the time when each unit is retired, or should be anticipated by periodical instalments spread over its service life.

But the proposition that cost is necessarily and universally the proper basis of the charge for property consumed is by no means axiomatic. On the contrary, it is far from being demonstrably sound in theory and equally far from being adopted in practice — even under the Commission's own regulations.

In the course of the decision the Commission said also:

In our consideration, therefore, of the relative burdens imposed by the depreciation and retirement methods of accounting, we must start with the premise that the former presupposes full deduction of accrued depreciation in ascertaining the rate base value.

Since the Commission had deducted depreciation on a straight-line basis in its valuations, it naturally adopted the same basis in the decision in question. Furthermore, harmony with its valuation practice necessitated the application of depreciation to such property as miscellaneous track material, tho the Commission's accounting section had advised against such an application on the score of impracticability. It also entailed a substantial change in the method of application of the straight-line depreciation plan from that heretofore applied in the case of equipment.

Here again, however, the Commission seems to stand on insecure ground, for the conditions which it postulates regarding the deduction of depreciation in determining the rate base, coupled with its adherence to straight-line depreciation, bring its position into direct opposition to Supreme Court decisions on the point. Thus the Commission's whole case rests heavily on an axiom and a

postulate, both of which lack validity. The explanation is apparently that the Commission, or some members of it at least, still clings to the hope that the Supreme Court will reverse its past rulings regarding the rate base and accept the line of reasoning advanced in various minority opinions, notably in the dissenting opinion of Mr. Justice Brandeis in the Southwestern Bell Telephone Company case.¹

The Commission's decision of November 2, 1926, gave rise to much criticism and to requests for rehearing. These requests were granted and the rehearing, which is now in progress, seems to be developing, as it rightly should, into a broad reconsideration of railroad accounting methods in general. In the circumstances a discussion of the depreciation problem seems opportune, particularly as the accountant's view may differ from that of either the lawyer or the economist.

II

The specific questions which it is proposed to discuss are:

1. Should charges for consumption of property in rendering service be based uniformly on cost (a) for purposes of rate and profit regulation; and (b) for current accounting purposes?

2. Should the charge for property consumed be made in bulk at the time when each unit is retired, or should it be anticipated by periodical instalments spread over its service life?

3. If consumption charges are to be made as consumption proceeds rather than when it becomes complete, on what basis should the accrual be deemed to take place and be computed?

1. 262 U. S. 276.

The relation between the basis of exhaustion charges and the principles of computation of the rate base is, as the Commission points out, direct and vital. Some economists² hold that if the so-called prudent-investment theory is to prevail, depreciation provisions cannot possibly have any proper place in the scheme of things. It therefore seems desirable as a preliminary step to discuss briefly the two principal conflicting theories of rate-base determination.

The difference between the two theories, sometimes referred to as the "present-value theory" and the "prudent-investment theory" respectively, is understood by all students of the subject and is sufficiently indicated by two sentences — one from the majority opinion and the other from the dissenting opinion in the Southwestern Bell Telephone Company case. Mr. Justice Brandeis, advancing the prudent-investment theory, says: "The thing devoted by the investor to the public use is not specific property, tangible and intangible, but capital embarked in the enterprise." Mr. Justice McReynolds, in the majority opinion, however, quotes from the decision in the Minnesota rate cases: "The property is held in private ownership and it is that property, and not the original cost of it, of which the owner may not be deprived without due process of law."

Mr. Justice Brandeis supported his contentions by a forceful presentation of the economic and practical advantages of prudent investment as the measure of the rate base. The refusal of the majority to accept his conclusion does not necessarily imply dissent from this part

2. No attempt is made to cite authorities for this or other economic arguments herein advanced, since the writer's knowledge of the authorities is not wide enough to enable him to make just attribution. His acknowledgment of indebtedness to economic writers must be general, not specific.

of his argument. Their view is perhaps rather that the Court is not free to apply whatever rule may seem economically wisest. Apparently in the majority view present value must, under the Constitution, be the measure of the rate base; cost is significant only in so far as it reflects fair present value. Economic considerations may, and indeed must, be taken into account in determining present value, but the Court is not free to adopt or approve a basis for regulation which, tho perhaps economically wise, disregards present value. Mr. Justice Brandeis does suggest that cost is the only practical measure of present value, but in his main argument he attempts to support cost as a measure of the rate base without linking it to present value. To a layman his failure to carry the Court with him in this part of his argument seems inevitable; but the whole discussion illustrates very clearly how the difficulties of the problem have been accentuated by the way in which we have drifted into it.

The problem comes before the courts as a conflict of constitutional rights which are unequivocally recognized but not clearly defined. On the one side there is the right of the people through its representatives to regulate business affected by a public interest, on the other the right of the carriers to protection against complete or partial confiscation of property. The Supreme Court, in holding that it is the present value of the property employed that must, under the Constitution, form the basis for determining whether any regulation is confiscatory in its effects, does not imply that in its judgment present value is, from the standpoint of either carriers or the public, the most satisfactory basis for regulation of rates or profits.

Looking backwards, one might say that the acts under which carrier enterprises were originally undertaken

should have recognized the constitutional rights of the carriers and the public, and have laid down principles for determining fair compensation which would have been binding on both parties on the acceptance of the acts by the carriers. It may well be, also, that prudent investment would, in such circumstances, have been the most appropriate measure of a proper return and its adoption desirable in the interests of all parties. No such action was, however, taken. The questions may not have been anticipated or, since the economic gains which would result from the construction of railroads were obvious, all parties may have been concerned to get them built and disinclined to raise questions likely to delay action and not of immediate importance. Apparently for years after the initiation of the great era of railroad construction, competition and similar natural economic forces were deemed an adequate safeguard against excessive rates. Conceivably those who foresaw that the question would arise may have been content to await the day without prior commitments, and so to be free then to urge whatever theory might seem most advantageous to the interests with which they were concerned. Certain it is that the way in which we have drifted into the problem, with no clear principles laid down, but with broad constitutional rights on each side, makes any present-day solution far more difficult.

The approach to the problem from the standpoint of prudent investment offers the practical advantages which Mr. Justice Brandeis pointed out: it recognizes the essential fact that, once money is invested in a railroad, the investment is valuable only for what it can produce; it has the merits of continuity and relative certainty. On the part of carriers, the main objections to prudent investment as a measure of the rate base are perhaps first and foremost that it denies the carrier any

benefit from the increment in land values which railroad construction has created, and second, that it fails to produce a fair return when the currency has depreciated or there has been a marked rise in price levels. However, if the carriers are to be participators in the increment in values which they have created, it should be possible to find a fair and more practical measure of their just share than the hypothetical appreciation of land which they own but cannot sell, if at all, without sacrificing other values. And similarly, if the return to carriers is to vary with changes in the value of the currency or of price levels, an adjustment on the basis of the changes in the value of currency as measured by general internal purchasing power or international exchange value might be simpler and fairer than one measured by changes in the values of the particular units of property that go to make up a railroad.

The question is, largely, what form of assurance of return is calculated to secure capital most advantageously. It is all very well to say that security is the first requisite, but what constitutes security? Is it a stable income or a stable capital value, and in either case is the stability to be measured in terms of money or in terms of purchasing power? Prior to the war, fixed money income was perhaps mainly sought. But the course of security and commodity prices during and since the war has brought home to investors the possibilities of loss inherent in a fixed-income investment when interest rates and prices both rise; and in recent years the importance of stability of real income and of capital value has been more appreciated than formerly. One manifestation of this trend is the increased popularity of common stocks among investors.

The prudent-investment theory is capable of adaptation so that it will tend to meet whatever form of as-

insurance is deemed most desirable; but when interest rates and price levels fluctuate, only one form of stability can be obtained by any one method, and the choice of any one form implies definite relinquishment of the three other forms of stability.

The alternatives can be summarily stated thus:

1. If the return is restricted to a fixed rate on actual investment, it is the *fixed money income* that is stabilized, and the investor assumes the risk of fluctuations in the purchasing power of this income and in the capital value of his investment. This is the position under the English Gas and Water Company Acts.

2. If the fair return is measured by the actual investment and current rates of interest, it is the *capital value of the investment in money* that is stabilized. This seems to be the principle favored by Mr. Justice Brandeis.

3. If a *stable real income* is desired the result can be obtained by using a fixed rate of return but using as the rate base the actual investment adjusted for changes in the general price level.

4. Finally, the *capital investment measured in terms of purchasing power* can be stabilized by adjusting the prudent investment in respect to the change in the general price level, and applying to the rate base so ascertained a rate of return based on current rates of interest.

The method of applying a fair current rate to a fair present value of the property employed in rendering service, which has the support of the Supreme Court, differs from the principle last mentioned in that it takes account of changes in value not attributable to changes in price levels, and reflects variations in price of the particular commodities by which the investment is represented instead of changes in the general price level.

Theoretically there might be an alternative application of the present-value theory under which a fixed rate of return would be applied to the rate base determined on present values. It would, however, be illogical to determine the rate base with reference solely to existing conditions and to ignore existing conditions in fixing the rate of return. This being so, the alternative scarcely needs consideration. For the same reasons the variant (3.) of the prudent-investment theory, above mentioned, may be eliminated or left to come into existence as a part of a general scheme of stabilization of the purchasing power of money.

Of the other variants of the prudent-investment theory, the last mentioned, (4.), which contemplates adjustments for changes in price level and interest rates, has received little consideration, tho the acceptance of this modification would go far to reconcile the theory with the basic constitutional requirement that the ultimate rate base must be defensible as a reflection of present values. The prudent-investment advocates, as a rule, favor the actual money investment as the measure of the rate base.

The Supreme Court rejects this view and insists on present value. But what is present value? The Court has said that actual investment, present cost of reproduction, and other elements are all factors in determining it. The conclusion reached in any case will depend on the weight assigned to the various factors. At the moment, however, the legal standard of present value seems to tend to approximate cost of reproduction (with some adjustment for decline in value due to condition).

Notwithstanding the pronouncements of the Supreme Court, the Interstate Commerce Commission has continued to express its convictions in favor of prudent

investment, and in some cases to attempt to give practical effect to those convictions. In the discussion which follows, of the treatment of property consumed in rendering service, both the prudent-investment and the present-value theories of compensation for property use will therefore be kept in mind, the prudent-investment theory being deemed to imply the use of actual investment, and the present-value theory the use of substantially present cost of reproduction as the rate base. The question whether any deduction, and if so, what deduction, shall be made from the gross value for decline from new condition is reserved for consideration as the discussion proceeds.

III

We may now consider the specific questions raised on page 196, and first the question, "Should charges for consumption of property in rendering service be based uniformly on cost (a) for purposes of rate and profit regulation; and (b) for current accounting purposes?"

The question is subdivided into these two parts in order to emphasize the point that the considerations affecting the two aspects of the question are not identical. Nevertheless, while it is not in theory essential that the treatment of charges for consumption of property in rate cases should be identical with that in the current accounting of the carrier, obviously serious inconvenience would result if different methods were employed for the two purposes; indeed, it is scarcely too much to say that practicability requires identical treatment. It follows that any method prescribed by the Commission should be reasonably appropriate for both purposes.

As has already been suggested, the assumption made by the Commission that the charge for property consumed should be based uniformly on its original cost

does not find support either in theory or in past practice.

Where rates are being regulated there are at least two other bases for which theoretical arguments can be advanced: current cost of reproduction, and probable cost of replacement. Prospective cost of replacement seems in principle the most appropriate basis if the prudent-investment theory of rate base is accepted; if the present-value theory of rate base is adopted, current cost of reproduction from year to year seems theoretically the correct basis for the computation of the exhaustion charge.

It is inherently fair that, if traffic is paid for in currency which has depreciated, the charge against the traffic for property used up in operation should be calculated upon the same scale of values. Suppose that in a given year property is made good to an extent exactly equaling the amount of property used up in operation (measurement being made in physical units): justice to all would seem to be achieved by charging the cost of making good property during the year against traffic of the year. When the value of money has fallen there is no valid reason why the increased currency cost of the replacing units over the original cost of exactly similar property used up in operation should be treated as capital expenditure so as to constitute a burden on the patrons of a later time.

Further: if the principle be accepted that the sum on which the carrier is entitled to a return as compensation for the *use* of property in service is its fair present value, consistency would suggest that the measure of the compensation for property *used up* should also be its fair present value, or, in other words, the current cost of replacement of what is exhausted. The point may be made clearer by an illustration.

Take the first year of the life of a locomotive: suppose its cost to be \$25,000; suppose the fair rate of return for use (exclusive of exhaustion) to be six per cent; suppose it is agreed that three per cent of new value is a fair measure of the annual charge for exhaustion; then the charge against the traffic for the locomotive is nine per cent (six plus three) of \$25,000, or \$2250. Now consider, say, the tenth year, when through currency depreciation the new value is \$60,000, and the condition of the property, as the result of exhaustion on the one hand and rebuilding on the other, is 80 per cent of new value — interest rates being unchanged. On the present-value theory the rate base for the locomotive is 80 per cent of \$60,000, or \$48,000, and the use charge six per cent thereon, \$2880. Is it not clear that on the same theory the exhaustion charge should logically be three per cent on \$60,000, rather than three per cent on \$25,000?

The practical objections to the application of this principle are so great as perhaps to compel its rejection. If so, it may be argued that whichever of the other bases more closely approximates to the theoretically correct one should be chosen. But clearly actual reproduction cost would normally tend to be closer to original cost in the earlier years of the life of a unit, and to prospective replacement cost in the later years, so that there could be no preponderance in favor of either of these bases.

In these circumstances it may be said that the theoretical arguments are equally balanced, and that the choice between original cost and probable replacement cost should be determined by practical convenience. This would mean that if the charge is to be made for exhaustion as it proceeds, original cost would be the preferable basis, since original cost could be more easily ascertained or estimated than probable replacement cost. If, on the other hand, exhaustion is to be pro-

vided for in bulk when the unit is retired, the actual cost of replacement would be a more convenient basis for the charge than an actual or estimated original cost. On the whole it may be said that, if the present-value theory of rate base is to govern, there is no balance of argument on the score of either theory or practical advantage in favor of either original cost or replacement cost as the basis of the charge to operations for property exhaustion.

Let us now consider the question on the assumption that the use charge is to be computed upon the prudent-investment theory. This theory rests upon the proposition that when an investment is made in railroad property it is permanent, that the investor exchanges a present command of purchasing power for a right to receive a reasonable return thereon in the future, and that thereafter fluctuations in the value or cost of reproduction of the property represented by his investment are of no practical significance to him. It seems a legitimate corollary of this proposition that the burden of maintaining the property should fall on those who benefit from the use of the property, and that fluctuations in the cost of its maintenance should be treated as at their risk and charge. This would mean that, if the prudent-investment theory is to control, prospective cost of replacement should be the basis of the exhaustion charge, whether such charge is to be made as the exhaustion proceeds or in bulk as units are retired.

The Interstate Commerce Commission in its report on Case 15,100 takes a somewhat different view, and proceeds upon the theory that on the replacement of any property the original investment should be regarded as having been returned to the investors and a fresh investment made by them in the replacing unit. This, however, seems not only contrary to the normal course

of events but inconsistent with the basic idea of the prudent investment. It seems to be an essential feature of the prudent-investment theory that the investment is voluntary; and it is only the original investment that can be said to be voluntary — replacement being a necessity that grows out of, first, the voluntary act of creating the original property, and second, the use of the property in rendering service.

This theoretical argument in favor of charging the cost of replacement rather than the cost of the original unit against operating expenses finds ample support in practice. It is the method that has consistently been followed in Great Britain; and tho methods of railroad accounting and reporting there have been the subject of numerous official inquiries, apparently no suggestion has even been made that the practice should be modified. Railroad accounting in Great Britain has always proceeded on the principle that the original cost is a permanent investment and that the maintenance of a property, including the replacement of units, is to be effected out of revenue. This was also, it is believed, the common practice of the best-managed railroads in the United States prior to the regulation of accounting by the Interstate Commerce Commission; it is the practice that has been required by the Commission under the existing regulations during the last twenty years for important classes of property, such as rails, ties and other track material.

It must be remembered that the original construction of a railroad, particularly in a new country, often involves costs not entailed in the subsequent replacement of units. For instance, rails may have had to be hauled on mule-back over mountains at a cost exceeding the cost of the rails at the point of production, whereas when replacement becomes necessary they can be shipped

over the railroad itself at a fraction of the original transportation cost. The extraordinary transportation cost of the original rail can rightfully be regarded as attaching to the railroad as a whole, rather than to the particular pieces of metal in the track, and every economic and financial requirement is met when the replacement of the rail is provided for through operating expenses on a basis including a normal current transportation charge.

The answer to our first question may then be stated as follows.

1. If the rate base is to be computed on the present-value theory, then the balance of argument is slightly in favor of *original cost* as the basis of the exhaustion charge if provision is to be made as exhaustion proceeds, and slightly in favor of *replacement cost* if the charge is to be made when exhaustion is complete.

2. If the rate base is to be computed on the prudent-investment theory, then the balance of argument is decidedly in favor of replacement cost as the basis of the exhaustion charge if exhaustion is provided for as it proceeds, and still more decidedly if the charge is to be made only in bulk when the exhaustion is complete.

IV

We may now consider the second question stated on page 196, which is in substance whether provision for consumption as it takes place — or what is commonly called a depreciation scheme — is or is not desirable for various classes of railroad property.

The reasons that have led the Commission to favor a complete depreciation scheme appear to be four:

1. that existing methods do not take out of capital or charge into operating expenses an exhaustion of value that has undoubtedly taken place;

2. that the existing methods facilitate manipulation of operating expenses through excessive or inadequate expenditure for maintenance;

3. that such a plan strengthens the financial position of the carrier and puts it in a position to render better service;

4. that it is necessary, as the Commission sees it, to bring accounting and valuation methods into harmony.

The theoretical correctness of the first point may be conceded and yet the wisdom of the suggested change, from the standpoint of the carrier and the public alike, still be seriously questioned.

If we consider the usual history of a railroad from its creation as a new property, we find that, for some years, while wear and tear will be taking place, it will not be practicable or economical to make good this wear and tear. Consequently the renewals will be light and the unexhausted service value of the property will diminish until a point is reached where any further deterioration would mean a loss of efficiency. At this point renewals will begin, and every such renewal will tend to restore or extend the original life of the unit to which it is applied. The point at which such renewals become necessary will vary with each unit, even of the same kind. Once the point is reached, the group cannot further depreciate if it is properly maintained; and hence, in practice, while single units may and frequently do run down to a point much below this average without becoming absolutely inefficient, a complete property, if properly maintained, arrives at a more or less stationary value and never reaches the theoretical scrap value. At this point proper maintenance will call for expenditures for renewals and replacements which will approximately equal the depreciation charge; renewals and replacements, due either to wear and tear or to obsolescence,

all the time tending to postpone the date when final replacement occurs.³

This brief outline suggests a number of considerations. There is clearly in the case of a matured property a substantial exhaustion which will never be made good. In the accounting of a new company is it necessary or desirable to provide out of earnings for this exhaustion? If in the case of a matured company no such provision has in fact been made heretofore, should it now be made and, if so, how and by whom should the cost be borne? Precisely what purpose does such a provision serve? Is it to offset a loss of value? If so, what is the real loss of value? Is it to provide for replacement? If so, is it not a fact that so long as operations continue there will always be substantially the same amount of exhaustion not made good, and that if operations cease no further replacements will be made?

In order to consider dispassionately the question whether any depreciation provision is economically desirable, it may be well to look at it from the standpoint of a community in which a new railroad enterprise is under contemplation. Let us assume that it is agreed between the promoters of the railroad and the community that the former shall be entitled to a reasonable opportunity to earn a fair return on their investment in the line, and that the community shall have the right to restrict closely to that fair return the profits of the railroad. Would competent economic advisers of the community advocate a system of depreciation charges, and,

3. It may be of interest to mention that this paragraph is substantially a quotation from a communication addressed to the Interstate Commerce Commission by the writer's firm in 1908, questioning the soundness of a system of depreciation which merely distributed the original cost over estimated life as extended probably by important renewals without making any allowance for the cost of those renewals. The Commission in its decision in Case 15,100 has attempted to meet such criticisms by a modification of the scheme.

if so, of what type? The result of a depreciation plan is obviously to throw an added charge for use and exhaustion of property upon the earliest years of operation, years in which the traffic development would be in progress and in which consequently the charge would be more burdensome than in later years. Such a condition would seem to be exactly the reverse of that which would be economically desirable from the standpoint of the community. Its interests would be served by keeping the charges in the early years down to the minimum consistent with maintaining the efficiency of the property, thus enlarging the volume of the commodities that could profitably be transported, and building up both the traffic and the community more rapidly than would otherwise be possible. The best interests of the community in such a situation would be served, it would seem, by a mutual agreement to ignore the depreciation on the property in so far as it could never be made good while the property was being operated; the owners of the railroad agreeing that this depreciation should not be treated as a part of cost of operation, and the community agreeing on the other hand that in computing return no deduction should be made from the original investment therefor.

If a universal depreciation scheme was not desirable in the interests of the carrier or the public at the time when railroad enterprises were in their infancy (and none was ever put in force, if indeed ever seriously suggested) there is an even stronger case against imposing such a scheme today upon railroads which are now highly developed and have been built up under a system of accounting that contemplated no provision therefor. If a depreciation scheme is to be adopted, how is the amount of depreciation deemed to have arisen prior to the initiation of the scheme to be provided? If it is to be

provided at the expense of the public, an unnecessary burden will be imposed on the traffic; it could hardly in common justice be established at the expense of the carriers. The Commission expresses no final opinion on this question; it does, however, indicate its views in the following language (page 384 of the Report):

The theoretically correct way of meeting this situation would be to establish the amount of past accrued depreciation which has not been provided for, and concurrently credit this amount to the depreciation reserve and charge it to profit and loss. It is the latter account which has profited in the past from the failure or partial failure to accrue depreciation charges.

This statement of the position is inadequate and, as a result, seriously unjust. The omission of depreciation provisions in the past is supported too strongly by economic, historical and practical considerations to be justly characterized as a "failure on the part of the carriers." It seems humanly certain also that if a system of depreciation charges had been inaugurated at the commencement of railroad enterprise the development of the railroads would have been made more difficult and the growth of the country greatly retarded.

Upon a broad view of the situation it is quite impossible, therefore, to hold that it is the profit and loss accounts of the carriers alone which have profited by the omission of depreciation charges in the past. As regards equipment, it might be reasonable to treat any past omission to provide adequately for depreciation as a failure on the part of the carriers, seeing that depreciation provisions therefor have been in force now for twenty years. But in the case of properties such as rails, where neither the Commission nor the practice in other jurisdictions has in the past called for depreciation provisions, the fact that they have not been made cannot reasonably be treated as a delinquency on the part

of the carriers, nor could the surplus of the carriers justly be diminished by whatever amount of depreciation the Commission might, upon some new theory, decide to attribute to the past. The only alternative is that the provision in question, if made at all, should in some way be set aside out of future earnings. Possibly the most equitable way would be to accumulate it gradually out of earnings after the carriers have received a fair return and before any recapture provisions become effective. In any event, the adoption of such a scheme would impose an unnecessary burden on someone in the future.

The economic considerations thus seem to lead clearly to a conclusion adverse to the proposal.

Turning to the Commission's second point, there is the gravest doubt whether the opportunities for manipulation would be lessened by the adoption of a general depreciation scheme. This is a highly technical question, which cannot be fully dealt with here; anyone interested in it will find some aspects dealt with in a memorandum by the writer introduced in Case 15,100, and forming a part of the record in that case.⁴

It is suggested that the results sought by the Commission in this direction, and also the financial strengthening contemplated in the Commission's third point, could be secured at least as adequately in other ways under the Commission's powers of regulation and supervision, and that there is no real argument under either head for a depreciation scheme. Some system of reserves for the equalization of maintenance charges, such as have been employed in the past by sound railroad managements here and abroad, should under the Commission's supervision meet these requirements, as they have in the past met them without the safeguard

4. The memorandum has been reprinted, and copies can be obtained by application to the writer at 56 Pine St., New York City.

afforded by that supervision. It may be added that no system of book charges for depreciation will by itself prove very valuable in maintaining the carriers' financial integrity. This is particularly true if the depreciation reserve is to be regarded as available for financing capital additions, as the Commission contemplates. If, on the other hand, the reserve is to be kept invested in liquid form, the investment of the huge sums which would accumulate would present another grave problem and afford opportunities for serious abuses.

We come then to the fourth consideration influencing the Commission, namely, the relation between maintenance charges and valuation. In reading the report one feels that it is this consideration which has weighed most heavily with the Commission and largely determined its conclusions.

In maintaining its position upon this point the Commission labors under the difficulty that its position is completely at variance with the Supreme Court's decisions. In the Indianapolis Water Company case⁵ the Supreme Court made it clear that in valuing property for rate purposes the only permissible deduction for depreciation was the actual lessening of worth as compared with new value, and added that such lessening of worth must be not wholly theoretical nor based on percentages of general application, but primarily founded on observation. Now, not only is the Commission's proposed method theoretical and based on percentages of general application, but the particular theory of depreciation which it advocates is one that clearly does not even approximately reflect the lessening of worth in service due to the partial exhaustion of useful life.

5. 272 U. S. 400.

V

This brings us to a consideration of the third question raised on page 196, the question on what basis the accrual of depreciation or exhaustion shall be deemed to take place and be computed.

In practice there are perhaps four well-recognized methods of providing for depreciation:

1. *The straight-line method.* This is by far the most common in industrial practice. It contemplates the distribution of the cost of property (less salvage value) over the useful life in equal instalments.

2. *The sinking-fund method.* This aims to set aside annually such a sum as will, if invested, produce an amount equal to the cost of the property when the life thereof is exhausted.

3. *The annuity method.* This regards property as representing capacity for service over a period of years, and its service value therefore as that of an annuity for a gradually diminishing term of years, and adjusts the valuation from year to year accordingly.

4. *The diminishing-balance method.* This involves the application of a uniform percentage of reduction to the balance of the property account from year to year, so that the property will stand at its salvage value, or a nominal figure, when its useful life is exhausted.

It will be observed that the second and third methods are substantially similar. Since the sinking-fund method contemplates the return of the investment or provision for its replacement when the unit is retired, it is perhaps technically the better adapted to replacement reserves (based on estimated *cost of replacement*), while the annuity method is more strictly applicable to a depreciation scheme designed to provide gradually for writing off the *cost* of the original unit.

The diminishing-balance method is of limited application: to cases in which the prospects of profitable use are assured for a brief period only, or to accounts representing a mass of small units of property which it is impossible to account for separately.

The straight-line method has the virtues of comparative simplicity and conservatism, but since it ignores interest and the time element its adoption necessarily implies renunciation of any attempt to reflect the course of unexpired values in service.

The annuity method reflects the course of value in service, and is the only logical method to be followed if the object is to provide for the return to the investor of the lessening of worth of a property unit due to the gradual exhaustion of its useful life as that exhaustion takes place.

Neither the fundamental character of the differences in principle and purpose between the straight-line method and the annuity (or the sinking-fund) method nor the wide difference in the results reached, according as one or the other is employed, appears to be adequately appreciated by the Commission.

It has expressed the opinion that the principles underlying the straight-line method are in accord with the principles enunciated by the Supreme Court — a statement which it is difficult to accept — and says, “nor are the practical results of the two methods [that is, the sinking-fund or annuity method and the straight-line method] very different” — a statement which is clearly incorrect.⁶

6. A discussion of this point will be found in the memorandum by the writer of this article filed in Case 15,100. An illustration there given shows that in the case of property having an assumed life of 50 years, the value in service (taking money to be worth six per cent) at the end of 25 years is 81.11 per cent of new value, which is also the depreciated value on the annuity basis; as compared with 50 per cent on a straight-line basis.

It seems to the writer a matter not of argument but of mathematical demonstration, that the annuity method of computing depreciation is the only one which is consistent with the Commission's own hypotheses and which upon those hypotheses reflects the relation between the value of a new unit and that of a partly exhausted one. It follows either that the annuity method must be substituted for the straight-line method or that all suggestion of close relationship between depreciated values and fair value in service must be abandoned.

If the annuity method is properly applied the depreciated value will be the fair value in service, subject to fluctuations in new value and to the effecting of normal maintenance; this is as near the goal of reflecting true value as percentage depreciation schemes can come.

The Commission's arguments for the straight-line method are as untenable as the argument of the carriers that there is no lessening of value as long as property is maintained in serviceable condition.

VI

Now the type of depreciation scheme that is applicable, if any is to be applied, has a most important bearing on the decision whether any should be adopted.

The difficulties of even the simplest system of depreciation — difficulties that lie less in establishing the amounts to be set aside than in determining what outlays shall be charged against the fund so created — are sufficiently indicated in the report on Case 15,100. It can scarcely be claimed that adequate solutions of such problems as the treatment of extraordinary repairs or depreciation of miscellaneous track material and continuous structure are formulated or even suggested in that report. But if to the inevitable complexities of even a straight-line system of depreciation are added

the further complications inherent in the application of the sinking-fund or annuity principle, the resulting method would be, if not beyond the limits of practicability, at least so close to these limits that only a compelling need could justify its adoption. Dispassionate consideration leads to the conclusion that no such compelling need exists, even if it were granted that a general depreciation scheme is, in the abstract, desirable.

VII

The conclusions to which this discussion leads may be summarized as follows.

1. Unless a depreciation scheme is in force, cost of replacement rather than original cost is the proper basis for charges for property consumed in operation.

2. While depreciation schemes are an invaluable part of industrial accounting, a general system of depreciation charges for railroads is not today desirable.

3. The case for such a system would be weakened if the prudent-investment theory of rate base were to be adopted as the Commission seems to think it should be.

4. The particular form of depreciation scheme put forward by the Commission — the straight-line method — is demonstrably inappropriate for the purpose sought to be achieved.

5. The Commission's plan lacks one essential of any satisfactory scheme, namely, a practicable and equitable method of dealing with the depreciation deemed to have accrued prior to the initiation of the scheme.

What, it may be asked, are the alternatives? It is suggested that since a depreciation scheme for equipment has been in force for many years it might well be continued and extended to all classes of movable property, and also to any classes of property which are essentially in the nature of industrial plant. It might

also be desirable to initiate depreciation provisions computed on the annuity, or sinking-fund, basis for the replacement of exceptionally large units replaceable only as a whole.

The only further provision that seems to be called for is a reserve for the equalization of maintenance charges based on the reasonable expectations for a period of, say, five or ten years in the future. In the management of such a reserve the carriers should be given fairly wide discretion, tho the Commission should retain power to deal effectively with any case in which the maintenance charges might be grossly inadequate or obviously excessive. Transfers to and from the reserve should appear as separate items in the accounts so that the actual maintenance expenditures would not be obscured. So long as the present rules governing the determination of the rate base prevail, this reserve should not in any event be allowed to exceed the percentage of the book value of the property to which it would relate, which would be deductible from the new value of similar property as "observed depreciation" in a valuation proceeding.

It is believed that a program such as is here outlined would accomplish all the desirable objects which the Commission aims to accomplish by a depreciation system, and would be free from the objections to the Commission's proposals which have been set forth herein.

Upon the larger question of fixing a rate base, the best interests of all parties would seem to call for a settlement by agreement between the carriers and the Commission. For the moment the carriers have the advantage in the courts. But few suppose that the carrier groups will in practice ever be allowed to earn a return on the full present undepreciated reproduction cost of their property, and the next turn of the wheel may leave them in a far less satisfactory position than they now occupy.

They can afford to make considerable abatements of their claims to secure certainty. The Commission can scarcely hope to maintain its claim that straight-line depreciation should be deducted from new value to arrive at present value in service, nor the carriers their claim that there is no loss of value where there is no observable loss of efficiency. If the parties could approach the question in a sincere effort to reach by agreement a reasonable settlement, instead of advancing extreme claims, a solution of a difficult and vital problem should be attainable that would be fair to carriers and the public alike. Probably new legislation would have to be enacted and accepted by the carriers to enable settlements to be made which would be permanently effective and binding, but the advantages to all parties of a fixed method of determining the rate base as compared with the ill-defined and uncertain methods which the Supreme Court has felt compelled by the Constitution to prescribe, are so apparent and substantial that it should not be an extremely difficult task to secure the passage and acceptance of the necessary laws.

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SELF-LIMITING AND SELF-INFLAMMATORY MOVEMENTS IN EXCHANGE RATES; GERMANY

SUMMARY

I. Scope of the paper: certain self-inflamatory movements, indirect and provisional. — Three cases, distinguished according to the terms of sale, considered theoretically. Case I, 224. — Case II, 229. — Case III, 233. — Conditions in Germany during 1920-24 conform to the assumptions in these cases, 233. — II. Examination of German conditions, 236. — Two periods, 238. — Statistical verification for the two periods, 242. — Conclusion, 248.

I

THAT the strength of a prolonged movement in one direction in the rate of exchange of an inconvertible paper currency against other monetary standards tends to be cumulative is a now well-recognized phenomenon. It has, in the last few years, been noted in the case of many depreciated currencies, both on a falling and on a rising market. The movement is most marked when the depreciation has been great, if not extreme, and it is usually (and no doubt correctly) attributed to sales or purchases of rights to the depreciated currency by individuals who would not under stable conditions be in the market at all, but who, when the exchange value of the depreciated currency is falling, seek to escape losses from a presumptive decline in its internal purchasing power, and, when it is rising, to share in a present or prospective improvement in its internal value. Pure speculation no doubt plays some part also, as well as a more or less far-sighted attempt to provide, at a cheap rate, for probable future requirements for one currency or another. This phenomenon has been described as

that of "self-inflammatory exchange rates." It is not, however, with such movements that the present article proposes to deal; but rather with comparatively short-time fluctuations and with the causal relationship between an initial movement and the immediately ensuing exchange rate as the latter is affected, not by the entry of new buyers or sellers into the market, but by the terms on which already arranged contracts for the purchase and sale of internationally exchanged commodities or services may have been made.

Under what may be considered to be normal conditions, any movement in exchange rates, instead of being self-inflammatory, has usually been supposed to be self-limiting; that is to say, a downward movement has been assumed of itself to evoke resistance to a further decline, and an upward movement to impose a check upon a further rise. As will appear in the sequel, this may or may not be true. Nor is there any necessary difference in this respect between stable and unstable exchanges.

The distinction between the direct and necessary effects of any movement in the exchange rates and the indirect and provisional effects of such a movement should be carefully noted. It is on the latter that attention has hitherto been concentrated; but it is to a consideration of the former that the ensuing discussion will be devoted. Under gold-standard conditions, movements in the exchange rates are, it is true, self-limiting, but this is because a very slight fluctuation in either direction brings gold into play as a substitute for exchange as a means of meeting international obligations. Under inconvertible-paper conditions, movements in exchange rates may also tend to be self-limiting if other substitutes, more or less mobile than gold, are available for purposes of international payment. Such substitutes range all the way from securities with an international

market to commodities of comparatively slight salability. Since some or all of these are usually present in the necessary volume, there is a strong tendency for fluctuations in the exchange rates of paper on gold currencies, and of paper currencies on each other, to be centered about a norm which roughly corresponds to the internal purchasing powers of the respective media of exchange. A downward movement in exchange makes the purchase of goods, services, or securities, in the country against which the movement of exchange has taken place, advantageous to citizens of other countries, and makes their sale advantageous to citizens of the first country. The resulting transactions tend to check the fall in the exchange rate. Similarly, the opposite transactions limit the fluctuation when the exchange rate rises. But whether, and in what degree, these substitutes¹ for presently available exchange will appear in response to an adverse movement of exchange rates, is dependent upon varying circumstance. It is a consequence of the entry of new buyers into the exchange market for a given currency, when the exchange value of that currency falls much below its internal purchasing power; and of new sellers, when it rises much above.

It sometimes happens, however, that few or no resources capable of sale abroad are available to the citizens of any given country, or that no buyers appear, even when goods are offered at bargain prices. The supply of foreign exchange cannot then be increased.

1. In the exchange market currencies are, of course, sold against currencies. To speak of goods, services, or securities as substitutes for exchange is not strictly correct. They are so only indirectly. The goods, services, or securities are first sold by a citizen of one country to one of another. The seller then obtains a claim, to the value of the sale, upon the money of another country. This money he sells against his own currency, or, what is the same thing, with it he buys his own. Alternatively the buyer may act for the seller by buying, with his own, the seller's currency, or claims thereto, and remitting the same to the seller.

When this is the case, the ordinarily ensuing effects of an exchange movement, such as have been outlined above, will not occur. These effects must, therefore, be regarded as indirect and provisional. Whether, in their absence, the exchange-rate fluctuations will be self-limiting or not depends upon the direct and necessary effects of that fluctuation — effects, that is to say, which are bound to happen, since they arise out of transactions already in being at the time the exchange fluctuation occurs. These effects will vary with variations in the terms on which the goods, services, and securities already contracted for, but on which payment has not yet been effected, have been bought and sold. According to the tenor of these contracts, an initial movement of the exchanges may be self-limiting, self-inflammatory, or simply neutral. Under one set of conditions a given exchange fluctuation, resulting from disequilibrium in international debts and credits, will tend toward an immediate adjustment in claims and counter-claims and the restoration of equilibrium. Under another it will have just the opposite effect and will exaggerate rather than diminish the disequilibrium. Under a third it will have no effect at all. A few examples will make this clear.

Let us suppose first that, with a par rate of exchange but with the United States on a gold and Germany on an inconvertible-paper standard, Germans trade with Americans in the following fashion:

Case I (a)

Germans sell to Americans goods quoted in dollars to the amount of \$1,000,000.

Americans sell to Germans goods quoted in marks to the amount of 4,200,000 marks.

The German exporters (or American importers, according as payment is made by draft or remittance) will have

dollars for sale and will be in the market for marks, and the American exporters (or German importers) will have marks for sale and will be in the market for dollars. Equilibrium will be reached at 4.2 marks to the dollar, that is to say, without any disturbance of the par rate.

Now, suppose that the American export of goods to Germany suddenly doubles on the same terms of sale, German sales to citizens of the United States remaining the same. We then have:

Case I (b)

Germans sell to Americans goods quoted in dollars to the amount of \$1,000,000.

Americans sell to Germans goods quoted in marks to the amount of 8,400,000 marks.

American exporters and/or German importers will now have 8,400,000 marks for sale against a dollar demand for these marks of only \$1,000,000. If no other buyers of marks come into the market, the mark must fall in value to 8.4 to the dollar. Such a rate will bring the accounts into equilibrium; the movement of exchange will be self-limiting. Expressed in terms of dollars, the obligations of the German importers (the assets of the American exporters) will have shrunk in strict proportion to the decline in the dollar value of the mark (that is, to \$1,000,000, or one half their amount before the decline in mark exchange), while the obligations of the American importers (the assets of the German exporters) remain unchanged. Expressed in terms of marks, the obligations of American importers (the assets of German exporters) become twice as great, while the obligations of German importers (the assets of American exporters) remain unchanged. Expressed in either currency, the assets of Americans, being claims to a fixed sum of marks, automatically diminish in relative value with a decline in the exchange value of the mark,

and the assets of the Germans, being claims to a fixed sum of dollars, automatically increase in relative value from the same cause.²

The upshot of the matter is that, when the transactions are completed and payment has been received by the exporters in their own currency, German exporters will have gained and American exporters will have lost through the exchange fluctuation, while importers in both countries will be unaffected.³ The Germans, taken as a whole, will get twice the physical volume of imports for a given volume of exports that they got before the decline in mark exchange; or, to put it in another way, they will receive from the Americans the whole of their increased import for nothing. In the situation as outlined, the Americans are mulcted as a result of having acquired their assets in marks, and the Germans receive an undeserved windfall through having acquired theirs in dollars. Any individual buyer or seller could, of course, hedge on his transaction, but this would simply mean a shifting of the loss on exchange and not its elimination. It might, however, redistribute the

2. The liabilities of the Germans, while expressed in marks, are, of course, ultimately payable to the American exporters in dollars, and the liabilities of the Americans, while expressed in dollars, are ultimately payable to the German exporters in marks. But—and this is the significant point—the German liabilities are at any moment a fixed sum of marks but a variable amount of dollars, and the American liabilities a fixed sum of dollars, but a variable amount of marks. When the American exporters bring the proceeds of their sales home, they will obtain dollars in inverse proportion to the appreciation of dollar exchange; the German exporters, on the contrary, will obtain marks in direct proportion to that appreciation.

3. Abstraction is made here, and throughout the discussion, of shifts in the internal purchasing power of either currency through inflationary or deflationary movements concurrent with the movements in exchange rates. To include them would not alter the essential conclusions, but would unduly complicate their presentation. The matter in hand is a consideration of exchange-rate fluctuations only. It is presumed that no one will now deny that exchange rates may, at least temporarily, move far out of line with the internal purchasing power of the currencies concerned.

national gains and losses. If, before the fall in exchange, Americans had sold mark futures to Germans or Germans had sold dollar futures to Americans, the losses of the Americans and the gains of the Germans, taken as a whole, would be diminished; but if both had dealt in futures with their own nationals, the national gain and loss would obviously be unaltered.

The situation just described would, of course, be reversed if mark exchange should appreciate. If, for instance, Cases I (a) and I (b) should be reversed in time sequence, the Americans would gain at the expense of the Germans. Under the assumed conditions of sale a movement of the exchanges operates to diminish real obligations *pari passu* with an increase in their nominal amount, and to increase real obligations *pari passu* with a diminution in their nominal amount.

The point should perhaps be noted that, in the case first assumed, neither the German importers nor exporters have any interest — any immediate interest, at any rate — in preventing the fall in mark exchange. On the contrary, so far as contracts in being are concerned, the German exporters have much to gain by its fall, and the importers will be indifferent, since they have a fixed amount of marks to pay regardless of the fluctuations in exchange rates. American importers will also be indifferent, since they have to pay a fixed amount of dollars, but American exporters will have a very intense interest in preventing the fall in the exchange value of the mark. Under normal conditions they would, of course, refuse to sell their claims to marks at the sacrifice involved in Case I (b), and they would ordinarily find plenty of new purchasers — purchasers, that is, other than the original American importers — to take the marks off their hands. If the exchange value of the mark posited in Case I (a) represents its approximate internal purchas-

ing power as compared with the dollar (and abstraction has been made of fluctuations in internal purchasing power), the presence of such buyers will prevent any considerable decline in mark exchange.

These purchases, however, are by no means, in every set of circumstances, inevitable. Under any but greatly disturbed conditions they will occur; and the fact that they usually take place is responsible for the aspect of unreality which the foregoing and ensuing discussion may seem to the reader to bear. That the assumed situation is, however, not always unreal will later appear. As has been already pointed out, the purchases of a declining exchange (and sales of an advancing one), which may ordinarily be relied upon, exert a restraining tendency on any fluctuation, whether up or down, tho they are sometimes counteracted by sales and purchases which take little regard of the existing internal purchasing power of the currency in question, but which are made in the expectation of future declines or advances. But all this is outside the scope of the present discussion, which eliminates from consideration the possible tendency of exchange movements to influence new buyers or sellers. Whether or not new buyers or sellers enter the market is, moreover, a matter of relative indifference in the case just cited. Under the conditions of sale above presumed, the exchange movement, in itself, aside from any motivation to new purchases or sales, tends to be self-limiting. In the degree of its influence, which is strictly proportional to the movement in exchange, it will necessarily reinforce any other factors working in the direction of restraint on exchange deviations, and will counteract those working in the opposite way.

If now, however, we turn to sales of goods in opposite terms, we shall find that the exchange movements, in

and of themselves, far from being self-limiting, are self-inflammatory. Let us suppose, instead of the situation described in Case I, that the matter stands as follows:

Case II (a)

Germans sell to Americans goods quoted in marks to the amount of 4,200,000 marks.

Americans sell to Germans goods quoted in dollars to the amount of \$1,000,000.

Here, as in Case I (a), equilibrium would be reached at an exchange rate of 4.2 marks to the dollar. But if there be a doubling of German orders for goods in America on these same terms of sale, while American orders remain unchanged, the matter assumes an aspect very different from that of Case I (b). We should then have the following state of affairs:

Case II (b)

Germans sell to Americans goods quoted in marks to the amount of 4,200,000 marks.

Americans sell to Germans goods quoted in dollars to the amount of \$2,000,000.

Under these circumstances, American exporters⁴ and/or German importers will have marks for sale to such an amount as will, at the rate of exchange which becomes established, provide them with \$2,000,000. But the dollar demand for marks from American importers and/or German exporters amounts to only 4,200,000 marks. If no new buyers of marks come into the market, the price of marks must fall. Let us assume that, as in Case I, it falls to 8.4 marks to the dollar. Far from such a rate bringing the accounts into equilibrium, it will merely make the disequilibrium so much the greater.

4. Tho the goods are quoted in dollars American exporters will really have for sale marks to an indefinite amount corresponding to the number of marks for which their dollar claims on German importers will exchange.

At 8.4 marks to the dollar the German mark claims on Americans will provide \$500,000 only, while Germans need \$2,000,000 to meet the American claims on them. The mark will then fall further, but every decline only makes the situation still worse, unless new buyers of marks with dollars are eventually attracted by the bargain rates. If, to repeat, the mark were reasonably stable in domestic purchasing power, and if goods were freely available for export from Germany, such purchasers would certainly appear. But in the absence of such conditions, a heavy fall in the exchange value of the mark may frighten away such purchasers as would otherwise be disposed to buy. The fall in the exchange value of the mark, instead of reducing the dollar value of American claims on Germans and increasing the mark value of German claims on Americans, as in Case I (b), will reduce the dollar value of German claims on Americans and increase the mark value of American claims on Germans. Under the former terms of sale, the exchange movement resulted in a diminution of the real burden of the nominally larger claims and in an augmentation of the real burden of the nominally smaller, until equilibrium was reached. But under the present terms, the larger (American) claims are augmented while the smaller (German) claims suffer a decline. The fall in mark exchange is thus self-inflammatory and cumulative, and under the assumed conditions will have no bounds whatever until a large part of the American claims are extinguished by the bankruptcy of the German debtors.⁵

The American importers will now be the gainers and the German importers the losers, the exporters in both

5. They may avoid bankruptcy if marks in unlimited supply are furnished by the issuing authorities, provided *some* foreign buyers of marks enter the market. This was, in fact, partly the case in Germany in the inflation period.

cases being unaffected. But how much the American importers will gain and how much the German importers lose, it is impossible to say, since this depends on the extent of the exchange fluctuation. This is quite indefinite, and indeed theoretically infinite. If certain contracts are already made, unconditionally calling for payment in a currency other than that of the buyer, and if the supply of one currency against another remains unchanged after an alteration in the rate of exchange, then we have a situation analogous to a corner on the stock exchange. There, also, contracts for future delivery having already been made, the demand is fixed, or at least does not shrink with advances in price; and the supply being kept at a point below the amount demanded, an unlimited rise in price may ensue. The analogy is not complete, however, and indeed does not touch the most essential difference between Cases I and II above cited. In Case I, even as in Case II, supply and demand are assumed to be fixed. The fall in the dollar value of the mark brings equilibrium in Case I, while it increases the disequilibrium in Case II, because in Case I the claims on both sides are expressed in a circulating medium other than that in which they are ultimately to be extinguished, while in Case II they are expressed in the same medium in which they are to be extinguished. In Case I the claims of Americans, having first grown relatively to those of the Germans as a result of the increased export of American goods, then suffer a reduction proportionate to the decline in the exchange value of the unit in which they are expressed, a decline for which the growth of the American claims is itself responsible. The German claims, on the other hand, are proportionately increased. In Case II the German claims are proportionately reduced when the mark falls in exchange value, and the American

claims are increased; and the original fall in the exchange value of the mark having been due to an excess of American claims, the situation becomes worse and worse.

Continuing the comparison of Case II with Case I, it is the German importers, instead of the American exporters, who will now have a lively interest in preventing the fall in mark exchange (all other parties being indifferent or favorably disposed to that fall), and they will seek to secure dollars from new sellers of that currency. But there may be few or no individuals, other than the original exporters, who have, or can secure, claims against dollars. This was not far from being the actual case in Germany in the inflation period.

If we assume a change in the conditions of Case II with regard to the volume of purchases, such as would be involved if Cases II (a) and II (b) were reversed in time sequence, the course of the mark under the same terms of sale of goods would tend indefinitely upwards. This is, however, of little practical importance for the later consideration of actual phenomena, since, in the cases treated, American importers were always in a position to secure marks by exporting gold to Germany, tho the necessity of doing so never arose, owing to the fact that the Germans were constantly in arrears on reparations account and therefore always urgent buyers of foreign exchange.

Tho no one method of quoting prices is universal, perhaps the more normal practice in foreign trade is that described in Case I.⁶ This works well enough under stable exchanges, but when the exchanges become unstable the sellers of goods in the country of relatively

6. See J. W. Angell, "Equilibrium in International Trade: The United States, 1919-26," *Quarterly Journal of Economics*, xlii (May, 1928), 397. It is doubtful, however, whether German foreign trade follows this practice as fully as does that of other nations.

appreciating exchange quickly learn to quote in their own exchange in order to avoid losses. So far as the sellers in the country of relatively depreciating currency have been quoting and continue to quote prices in their own unit, we then have the conditions of Case II. So far, however, as they have been quoting in the buyers' currency, or go over to that practice, we should have still another set of conditions now to be described.

Case III

Germans sell to Americans goods quoted in dollars.

Americans sell to Germans goods quoted in dollars.

In this event, a fall in mark exchange, arising from an increase in the sale of American goods in Germany, will increase the mark liabilities of the German buyers, but will also increase the mark assets of the German sellers. The decline in the value of the mark will then, of itself, make the German position neither better nor worse. A downward movement of the mark will not then, in the absence of any new buyers of marks (sellers of dollars), be arrested or even retarded, but it will not, by its own fall, be accelerated. If the downward movement has been due to an increase in their purchases, the Germans will, of course, need more dollars to pay for this increase than are available from their sales of goods; and if these dollars cannot be obtained by increasing the offer of marks per dollar, the exchange may, as in Case II, continue in an unchecked decline. But in order to check it the volume of new demand for marks (sale of dollars) need be much less than would be necessary under the conditions of Case II.

It is, of course, most unlikely that the German demand for American goods would expand so suddenly as has been assumed. But any expansion of German international obligations whatever would have precisely the

same effect on the exchanges as an increase in German imports. Greatly increased obligations were, in fact, laid upon the Germans by the demand for reparations on the part of the Entente Allies, and, when the actual reparations payments failed to meet the amount demanded, were made effective, so far as the foreign exchanges were concerned, by the repeated tightening of the screws which marked the period of several years prior to the adoption of the Dawes Plan. Let the circumstances of that period be recalled. The means of procuring a supply of foreign exchange other than from the sale of commodities — means which are of the utmost importance as quick resources and which are ordinarily provided by the export of gold, the sale of foreign securities, or the placing of temporary or permanent loans abroad — were all unavailable to Germany. Various prohibitions on export made the foreign acquisition of marks for future purchases of goods an extremely speculative venture even tho the internal purchasing power of the mark were to remain stable. The principal exportable capital items, in the way of goods which could at all be dispensed with, such as the mercantile marine, much of the rolling stock of the railroads, a large number of farm animals and the like, had already been delivered to the Allies under the terms of the Versailles Treaty. The purchase by foreigners of non-exportable capital goods, such as real estate, was a matter of legislative and administrative regulation; such property, moreover, was deprived of its earning power by rental laws and was subject to possible complete confiscation. Domestic securities bearing a fixed rate of interest were rapidly moving toward complete worthlessness; and the position of industrial companies was so uncertain that even Germans, who had every motive for investing in the stocks of these concerns

as a means of preventing the total loss in value either of their mark balances or of other forms of monetary capital yielding fixed monetary annuities, were so loth to do so that the stock quotations fell to a fraction of their former and of their real value. Taking all this into account, one is perhaps justified in assuming that the hypothetical conditions of our illustration are not greatly out of correspondence with the actual facts in this period, and that, to whatever degree mark exchange might fall, there were then few ways in which the supply of foreign currencies could be increased. Certain goods having an international market, such as wheat, cotton, and copper, after having first been imported, seem sometimes, on a rapid fall in mark exchange, to have been sent out of the country again in order to yield the sellers a paper profit; and this would have some effect in checking a decline in exchange which had set in after the German payment for them had been effected. But the bulk of Germany's native exports are not of this type of commodity, and the outflow of typical German exports cannot be immediately increased even tho their price to foreigners sinks far. A selling process, which takes time, must first be undertaken. In addition to this, the country was from time to time, and at length steadily, drained of what exportable goods happened to be available, so that there was small possibility of increasing the supply of foreign exchange from this source even if purchasers were at hand. To do so would have required a transition of the internal economy of the country to an organization more largely devoted to production for export, and this, of course, is a long process and could not help at all as a solution of the immediate difficulty.⁷ It would seem, therefore, that the

7. It would, of course, never be impossible to acquire by one means or another, *some* foreign exchange. The intention is to emphasize the

actual situation in Germany from 1920 to 1924 might furnish an opportunity for verification of the theory presented here. An analysis of exchange movements in this period will be the task of the remainder of this paper.

II

For a surprisingly long time every downward movement in mark exchange after 1919 tended to be checked by purely speculative purchases, largely on the part of lambs who bought blindly. This support gradually disappeared as it became obvious even to the most unsophisticated foreign buyer that a restoration of the currency to anything like its former purchasing power was a possibility infinitely remote. When this mode of supply of foreign exchange vanished, there were few ways in which it could be obtained, scant emergency resources of any kind, and therefore but a slight tendency for a fall in the mark to evoke any sustaining forces. The effect of a movement in the exchange rate upon its subsequent course was, therefore, very largely confined to the direct and necessary consequences of the fluctuation.

There is no reliable evidence to show the respective volume of German imports and exports (or better, of total debits and credits) quoted in terms of marks and of foreign currencies. But one will hardly be wrong in assuming (1) that, in the earlier period of inflation, the ratio of imports quoted in marks to exports so quoted was greater than was subsequently the case, owing to the fact that imports (and other debits), taken as a whole, were put on a foreign currency basis earlier

difficulty of doing so in this instance, not to assert its impossibility. If none whatever had been available at any price, fluctuations in exchange would frequently have been interminable. The difficulty of procuring foreign exchange appears to have been sufficient to increase the range in exchange fluctuations, but it did not extend it ad infinitum.

than were exports taken as a whole; (2) that, in the middle period of inflation, a considerable volume of German exports continued to be quoted in marks; and (3) that, in the final period before stabilization, practically all foreign business, both export and import, was conducted in foreign currencies.

If these assumptions are correct, we should have in the early years of inflation a condition which, so far as the terms of sale are concerned, would in some measure approximate that of Case I. As the inflation proceeded, the situation would then have developed so as to take on more fully the aspect of Case II. This stage was a transitional one to the time when practically all international economic transactions in which Germans were involved were conducted in foreign currencies. Case III would then be typical.

In the degree that this represents the true situation a movement in mark exchange (whether up or down) might be expected to have the following effects. (1) In the first period a self-limiting tendency, succeeded, to the extent to which the movement induced new buyers or sellers of marks to enter the market, by a counter trend which would also be self-limiting. We should then have a rate fluctuating *without* wide swings. (2) In the transition period a self-inflammatory tendency, requiring a much stronger influx of new buyers of marks to check a decline, thus making a countermovement difficult, but, when once under way, likely to carry further than in the earlier period. The consequence would be a rate fluctuating *with* wide swings. (3) In the final period a neutral situation, the exchange movement in itself tending neither to check nor to promote its own progress.

That such phenomena should appear clearly and unmistakably in the actual movement of the exchanges is,

however, not to be expected with confidence. In the first place, those effects of a movement in the exchange rates which have, in this paper, been classed as indirect and provisional are almost always in operation in some, albeit a varying, degree; in the second, the terms on which goods were sold would be changing more or less rapidly and at any given time would, in all probability, include instances of each of the three types above presented; and finally, definite efforts were made by the German authorities (in 1923 certainly, and perhaps earlier) to influence artificially the rate of exchange. The day-to-day fluctuations in the rate might, therefore, conform to no rule whatever. But if, nevertheless, all the indirect influences above cited, which for the most part might reasonably be assumed to affect the rate about as frequently and in about the same degree in one period as in another, were reinforced by the influence of a preponderance of one set of conditions of sale at one period and of another at a later date, it would seem that some reflection of the change in these terms of sale might be perceived in the exchange rate.

The choice of suitable periods for the testing of the theory is not difficult, since it is practically prescribed by the general course of events and by the major movements in the exchange rate itself. It would be desirable to have three periods, presenting respectively the phenomena of Case I, Case II, and Case III, in each of which, whatever the day-to-day fluctuations might be, there was no constant trend in mark exchange in either direction. This is to a considerable degree capable of realization for Case I and Case II, but not so for Case III. Case III is, however, of minor theoretical interest. None of the three situations, of course, is presented purely, since in no period would the terms of sale of goods be entirely of one complexion. But it will

suffice if each of the three types of terms of sale is present in greater degree in one period than in another.

The economic isolation of Germany did not cease with the signing of the armistice, since the blockade was in operation till July, 1919. Meanwhile the mark was undergoing a process of adjustment on the foreign exchange markets which was attended by a steady and rapid fall in its exchange value till February, 1920, when exchange on New York was quoted at about one cent per mark. At this point the decline was halted and a recovery set in. No definite downward tendency again appeared for about a year and a half. Till midsummer of 1920 business was too disturbed by war phenomena to permit the use of exchange rates for the purpose in hand. By that time, however, reasonably normal conditions of trade were established, in which it may be assumed that the conditions of Case I were in some considerable degree in operation. A rapid fall in exchange, beginning in July, 1921, no doubt led many sellers of goods to Germany who had formerly been billing in marks to shift to more stable currencies, and, in so far as some Germans continued to bill in marks, the terms of sale would then take on more fully the aspect of Case II.⁸ In November, 1921, the bottom of this down-

8. The terms of sale were influenced to a considerable degree by official action. Immediately after the war the Reichsbank relaxed the control which it had exerted during the conflict, but early in 1920 renewed its activity in this field and made a strong effort to secure invoicing of German exports in foreign currencies. At the beginning of March of that year export permits were made conditional on such invoicing. The terms of sale assumed in Case I would tend to be more closely approximated as a result of this action. Before the year was out, however, the regulations were lifted and freedom of action was given to exporters. To what extent the latter then shifted to invoicing in marks is not clear, but there was, no doubt, some movement in this direction. In July, 1921, the Reichsbank again reversed its policy and sought once more to compel invoicing in foreign currencies. But strenuous opposition developed, and the authorities did not feel themselves strong enough to make this practice imperative. It is certain that a considerable volume of Ger-

ward movement in mark exchange was reached, and a new recovery set in. It was not until midsummer of 1922 that the decline which was the forerunner of the ultimate collapse got clearly under way. This decline was so great as to cause practically all foreign business to be conducted in stable currencies — the conditions of Case III.

In the light of these circumstances the daily fluctuations in exchange rates have been carefully examined for the year July, 1920, to June, 1921, as representative of Case I, and for the eight-month period November, 1921, to June, 1922, as representative of Case II. If the theory is to be supported by the facts, the fluctuations in exchange rates will be of much greater magnitude in the later than in the earlier period. In both instances the period chosen covered as long a time as possible, that is to say, the whole period during which the terms of sale would in each case present a clear contrast to those of the other. Owing to war and post-war disturbances, extraneous to both the direct and indirect effects of fluctuations in the exchanges, one is not justified in starting with a date earlier than midsummer, 1920 (to do so would apparently not have altered the results materially). The other time boundary of the first period, which will hereafter be called Period A, is furnished by the relapse, in midsummer, 1921, of mark exchange from the comparative stability in the monthly average rate (as contrasted with daily fluctuations), which had been preserved throughout the year in ques-

man exports continued to be invoiced in marks, and this method was largely followed till the middle of 1922. To the extent that this was the case, the conditions assumed in Case II were realized. As late as October, 1922, when the final collapse of mark exchange was well under way, not more than 60 per cent of the exports were being invoiced in foreign currencies. (*Wirtschaft und Statistik*, Jahrgang 2, No. 20, p. 663.) On this whole matter, cf. Arnold Richard Schwartz, *Die deutsche Ausfuhrkontrolle nach dem Kriege*, Greifswald, 1923.

tion. This relapse, it will be remembered, is assumed to have furnished the stimulus to the alteration in the terms of sale of goods which led to a situation corresponding more or less closely to the theoretical requirements of Case II. But it would take some time for this alteration to become fully effective. The second period, therefore, which will hereafter be called Period B, starts with November, 1921, and runs till June, 1922, when the final collapse in mark exchange was inaugurated. This break was quickly followed by the almost complete abandonment of the mark in international commerce.

There is another strong reason for the demarcation of the separate periods precisely as chosen. In order to prevent a confusion of the results, there must be no strong general trend of exchange in either direction, unless, indeed, it were of equal magnitude in both cases. If, for instance, the exchange had shown no general trend in either direction in Period A, representative of Case I, but had moved steadily in one direction in Period B, representative of Case II, the long-time trend in the latter case would have been reflected in the day-to-day fluctuations, and, other things being equal, would have made them greater than those which had taken place under the conditions of Case I. This would also be the case if there had been, in one period, a definite general trend of some months' duration followed by a general trend in the opposite direction and then perhaps another reversal, all of which found no parallel in the other period. A greater average magnitude in the day-to-day fluctuations in the period in which the general trends were present would, of course, mean neither refutation nor corroboration (according as it occurred under the conditions representative of Case I or Case II) of the theory at present in question, unless it could

be shown that the long-time trend itself was a result of the influence of the conditions of sale of goods. Even if this latter had in fact been the case, it would be incapable of proof. The periods chosen should, therefore, show either no general trend at all or a general trend of approximately the same magnitude. If, however, in spite of the presence of wider and more frequent general trends in the first period, the average magnitude of the day-to-day fluctuations is greater in the second period, the case in confirmation of the theory is stronger than it would have been had there been no general trends at all.

Since the problem in hand calls for a comparison of day-to-day exchange fluctuations in both directions, and is affected only by their magnitude and not at all by their direction, it makes no difference whether such general trends as occur in the respective periods are in the same or in opposite directions, provided they are of approximately equal magnitude.

If we look at the monthly average of exchange rates at the head of each of the tables below we shall see that in Period A the maximum range for mark exchange is from a high of 39.48 marks to the dollar to a low of 77.24, or, what is the same thing, from a high of 2.5 cents to the mark to a low of 1.3 cents. One may speak of this fluctuation either as a 96 per cent increase in the value of the dollar or as a 48 per cent decline in the value of the mark, the variation in percentage being, of course, due to the fact that in one case one reckons from a given base upward and in the other downward. In Period B the maximum range, expressed in percentage form, is less, running from a high of 191.81 marks to the dollar to a low of 317.44. This is a 66 per cent increase in the exchange value of the dollar, or, if one expresses it in the opposite way, a 33 per cent decrease in the value of the mark. Tho the percentage range

of the general trend is not greatly different in the two periods, it is greater in the earlier than in the later. There are, moreover, in Period A, three distinct movements — a fall in mark exchange from July to November, 1920; a rise from November, 1920, to February, 1921; and a fall (with a slight countermovement in May) from February to June, 1921. In Period B there are only two movements — a rise from November, 1921, to January, 1922, and a fall (with again a slight countermovement in May) from January to June, 1922. So far as the general trend affects the magnitude of the day-to-day fluctuations, therefore, the greater range and frequency of movements in the trend in Period A will increase the relative size of the day-to-day fluctuations in that period as compared with Period B. The actual conditions are therefore somewhat unfavorable to a corroboration of our theory, which calls for relatively small day-to-day fluctuations in Period A.

The tables show every change of direction in the movements of mark exchange on New York (quoted daily)⁹ during the periods which they cover. In each instance the figure given represents the percentage deviation, in the case of downward fluctuations, from the preceding high, and in the case of upward fluctuations, from the preceding low.¹ Where, tho there

9. Quotations taken from *Sonderheft zu Wirtschaft und Statistik; Statistisches Reichsamt, Jahrgang 5, Sonderheft 1, Berlin, 1925.*

1. To avoid the exaggeration of downward movements in exchange (an increase in the number of marks to the dollar), and the minimization of upward movements, which would occur when both are reckoned percentage-wise on the immediately preceding quotation, the base taken in every case is the figure midway between the two quotations. Thus, if exchange should move from 50 to 100 marks to the dollar, the deviation would appear, not as 100 per cent (50 on the base 50) but as $66\frac{2}{3}$ per cent (50 on the base 75); and similarly, a precisely equal countermovement from 100 to 50 marks to the dollar would appear, not as 50 per cent (50 on the base 100) but, as in the case of the opposite movement, as $66\frac{2}{3}$ per cent (50 on the base 75). Unless this were done, the results would be considerably distorted.

was a movement in the rates, no change of direction occurred, no figure, of course, appears. A rise in the dollar value of mark exchange is put in the columns marked with a plus sign, and a fall in the columns marked with a minus sign.

It is apparent, even on a casual inspection, that the magnitude of exchange fluctuations in Period B is, in general, much greater than in Period A. The average magnitude of exchange movements for Period A is 4.06 per cent and there are 132 changes in direction. The average for Period B is 8.19 per cent, or more than twice as great as that of Period A. There were in Period B 81 changes of direction.

If one looks at the results more closely, one finds that in only one month of Period A (September, 1920) is the monthly average of all fluctuations as great as the general average of Period B, and this is almost entirely due to a single big fall in the value of the mark. In only one month of Period B (February, 1922), on the contrary, is the monthly average of all fluctuations as small as the general average of Period A, and this is due to a series of minor movements concentrated in the ten days from January 27 to February 6. In this short time the exchange rate changed its direction nine times, a fact which lowered the average for January as well as for February. No explanation of this temporary failure of the facts to correspond with theory is at hand, but it is worth while, perhaps, to note that the principal exception to theoretical expectation is confined to so small a portion of the period covered.² Tho a general trend of

2. It should be observed that the number of fluctuations in some months was very small and in these cases a single large movement would tend to be given undue weight in the simple average which has here been employed. On the other hand a narrow oscillation from day to day would unduly depress the average for that month. The results must therefore be taken with caution. It does not appear, however, that such deviations from a presumptive norm as might issue from these causes are specially favorable to corroboration of the theory.

PERCENTAGE FLUCTUATIONS IN MARK EXCHANGE ON NEW YORK, JULY, 1920, TO JUNE, 1921

(Changes in Direction of the Exchange-Rate Movement Only)

MOVEMENTS IN EXCHANGE RATES

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Monthly Average Exchange Rate (marks per dollar)	39.48	47.74	57.98	68.17	77.24	73.00	64.91	61.31	62.45	63.53	62.30	69.36
Month	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
Day of Month	+	+	+	+	+	+	+	+	+	+	+	+
1												
2	2.6	0.4	0.9		14.1	2.0		17.5	3.2	0.3	1.5	1.2
3												
4	1.0	9.6		2.0	4.4		3.3	6.7	2.0		1.5	0.6
5												
6	1.0	2.9										
7	0.4	2.7		1.2		8.6	5.2	0.5		1.8	0.3	
8	0.3				12.5	1.8	1.2			0.8		
9		3.4			2.9		0.7		3.8	0.5	2.1	
10	2.5				2.8	1.8	6.3		2.5	0.3		
11	1.0	2.6					2.1					12.5
12						3.0		10.0	0.9	2.1		
13								4.3	0.8	0.8	14.4	5.1
14	1.5			11.3		5.2						
15	1.2											
16												
17												
18												
19												
20	2.6											
21	0.3	12.1	31.5	0.5	23.2	3.0	11.3	10.0	2.1	8.7	1.0	
22			12.3		6.7		3.5					
23	15.0	1.5			9.0	2.2		4.3			2.9	
24		0.6			0.7							
25			5.9	1.8	4.8		12.9	3.7			1.4	
26		5.4					2.6				2.7	
27	13.5						0.2			6.8	0.1	8.2
28		1.7	6.5				2.8		3.0	3.3	2.3	
29										0.1	2.1	3.2
30	6.7	0.5	4.5		4.6	1.3	0.2		1.6	0.5	0.1	
31		1.2			2.7							
Monthly average of + and - fluctuations	2.8	2.3	6.6	1.4	7.3	2.4	5.7	6.3	2.0	1.7	2.7	2.7
Monthly average of all fluctuations	3.5	3.4	10.3	3.3	6.9	2.9	3.9	6.9	2.1	2.0	2.6	4.7

PERIOD B:
 PERCENTAGE FLUCTUATIONS IN MARK EXCHANGE ON NEW YORK, NOVEMBER, 1921, TO JUNE, 1922
 (Changes in Direction of the Exchange-Rate Movement Only)

Monthly Average Exchange Rate (marks per dollar)	202.96		191.93		191.81		207.82		284.19		291.00		290.11		317.44	
Month	Nov.		Dec.		Jan.		Feb.		Mar.		April		May		June	
Day of month	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-
1																
2			36.0				1.4				12.9		0.4		1.9	
3							0.1									
4							1.4				9.1		0.4			
5				21.1		9.0										
6							0.6				6.3					
7									14.1		0.3				5.7	
8																
9		54.1					5.7		4.5				4.8		3.4	
10					17.9											
11		13.8														
12			35.1				5.7				8.8					
13			4.7		12.9				9.5		6.4		1.8		13.6	
14		1.6		14.0	4.9		1.7		1.5							
15															2.3	
16																
17	0.4			8.4												
18		6.7														
19															4.7	
20									11.8							
21	2.6	3.7							5.6						2.0	
22			12.4				3.3						10.5			
23	0.8			9.0		15.0					17.2					
24									3.1							
25		5.7							14.9							
26					5.0											
27					0.9											
28	7.2	0.6	3.4		0.6		7.0		5.3							
29																
30			1.4	1.9	1.3											
31																
Monthly average of + and - fluctua- tions	7.1	12.3	15.5	10.9	5.9	7.9	2.1	4.2	3.7	11.1	11.3	6.8	5.7	5.2	2.4	18.3
Monthly average of all fluctuations	9.9		13.4		6.9		3.1		7.8		9.1		5.4		10.4	

the rate in either direction must obviously affect the average magnitude of exchange fluctuations, the actual trend does not, at any time in either period, appear to have been strong enough to have been a dominant factor. In Period A the months most representative of the relatively small fluctuations which go to corroborate the theory are July, August, October, December, January, March, April, and May. In July, August, and October the general trend of mark exchange was quite strongly downward, in January it was strongly upward, and in December, March, April, and May there was no sustained movement in either direction. In the less representative months, September, November, February, and June, the general trend was not, on the whole, any greater in either direction than in July, August, October, and January. In Period B, where confirmation of the theory requires relatively large fluctuations, the most representative months are November, December, January (till the 27th), March, April, and June. In November, March, and June the general trend was strongly downward, in December it was strongly upward, and in January and April there was no sustained movement in either direction. Of the less representative months of Period B, February and May, February shows a sizable downward trend, but in May there was no general drift in either direction. One might here maintain that the general trend was in some small measure responsible for the relatively large average fluctuations in the more representative as compared with the less representative months of Period B, but there is no ground whatever for asserting that this is true of Period B in general, in comparison with Period A.

It might be expected that the average number of days between shifts in the direction of exchange movements would be less in Period A, when the conditions

were favorable to self-limitation of the fluctuations, than in Period B, when they were favorable to self-inflammation. Whether this will be true or not depends on the ubiquity of the indirect and provisional factors affecting exchange movements. A self-limiting exchange movement, if dependent purely on its own momentum, might last only a day or less, but tho the fluctuations would carry further in a given time, this would also be true of self-inflammatory movements if, after a given rise or fall, the ordinary indirect influences came into operation to check their course. In actual fact the average number of days between shifts is less in Period A than in Period B, but very slightly less. The figures are 2.76 days for Period A and 3.07 for Period B.

On the whole, the statistics furnish a rather striking confirmation of the theory. There is a clear contrast between the two periods; each of them has the general characteristics theoretically to be expected, and there do not appear to be any factors other than those here considered which, being present in the one case and absent in the other, could be supposed to be the cause of the difference between the two periods. The theory might be further corroborated if statistics could be presented covering Case III. Since in that case a fluctuation is, in itself, neutral, so far as its influence on the later course of the exchange is concerned, one would expect that, under circumstances similar in all respects except that of the terms on which goods were sold, the exchange movements in a period representative of Case III would show an average deviation midway between that of Case I and Case II. Unfortunately, the course of German exchange after midsummer, 1922, when the transfer to stable currencies in the conduct of international transactions became general on both sides, does not permit of comparison with the periods

which have been chosen as representative of Cases I and II. Mark exchange fell so rapidly from July, 1922, till the date of stabilization in late November, 1923 (with the exception of a three-month period from February to March, 1923, which is not available for the present purpose, owing to the fact that exchange was at this time subject to official manipulation), that no period of any length can be found during which the trend of the mark in one direction (downward) was not so strong as to preclude any comparison with the conditions of Periods A and B. The negative confirmation of the theory, which such a comparison might offer if it could be made, is therefore not to be obtained.

The confirmation which does appear is, of course, not conclusive. It may be merely fortuitous coincidence that the fluctuations of Period B have a greater average magnitude than those of Period A; or it may be that a cause other than that which has been suggested was operative. On the other hand, the theory would not be controverted even if the statistical results did not conform with theoretical expectation, since there are many possible disturbing influences in the situation. All that one can say is that the statistical investigation does furnish some confirmation of the validity of the theory and of its practical importance in certain cases. It would be interesting to examine the movements on the exchanges of other countries with a currency experience similar to that through which Germany passed; but this is beyond the scope of the present paper.

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THE EXPORT DEBENTURE PLAN FOR AID TO AGRICULTURE

SUMMARY

Nature of the plan, 250. — I. The original Ketcham bill, 252. — The revised bill, 255. — II. An export bounty, little disguised, 255; but not a formal subsidy, 256. — III. Hamilton's proposals fundamentally different, 258; tho similar in some superficial respects, 261. — IV. Comparison with the German system, 263. — Some unexpected results of the changes made in 1906, 267. — German experience affords no support for the debenture plan, 268. — V. Not analogous to drawbacks, 269; or to protective tariffs, 271. — Hamilton's view, 273. — "Equality for agriculture," 275. — VI. Conclusion: supporters of the debenture plan have relied on superficial analogies, 277.

THE National Grange of the Patrons of Husbandry emphatically advocates the so-called debenture plan as "a sound method of restoring agricultural prosperity in the United States."¹ Since this plan was first put before Congress in the McKinley-Adkins bills, early in 1926,² it has come to rank high among the alternatives to the most-favored proposal for farm relief which, as embodied in two different McNary-Haugen bills, passed

1. See its leaflet, *The Export Debenture Plan*, published and circulated in 1928. The Grange endorsed the plan at its convention at Portland, Me., in November, 1926, with but one dissenting vote; reindorsed it at Cleveland in November, 1927; and at Washington in November, 1928, without an opposing vote.

2. Introduced by Senator McKinley of Illinois, January 7, 1926 (S. 2289), and Representative Adkins of Illinois, January 11, 1926 (H. R. 7392). Perhaps the leading exponent of the plan is Professor Charles L. Stewart of the University of Illinois, who had discussed the plan in university lectures as early as May, 1924. See especially *Agriculture Relief*, Hearings, Senate Committee on Agriculture (69th Congress, 1st session, March 31, April 1, 1926), pp. 43-87; *Journal of Farm Economics* (January, 1928), x, 28-32; and *Agriculture Relief . . .*, Hearings, House Committee on Agriculture (70th Congress, 1st session, February 8, 9, 10, 14, 1928), pp. 359-391.

Congress in 1927 and 1928, only to be defeated by presidential veto.

The debenture plan rests upon much the same philosophy as does the McNary-Haugen plan. Behind both lies the view that our agricultural difficulties are fundamentally due to price disparities caused by the fact that American farmers sell on a world market and buy in a protected market. Both plans are devised to resolve those difficulties by raising domestic prices of agricultural commodities of which we produce an export surplus. By contrast with the McNary-Haugen plan, however, the debenture plan is engagingly simple.³ *Per se*, it requires no federal farm board, no stabilization corporations, no government aid to coöperatives, no controversial equalization fee, no revolving fund, no potentially far-flung commercial operations by governmental agencies. It contemplates only a minimum of administrative machinery.⁴ It is presented as a plan that avoids "assistance inconsistent with the dignity and independence of farmers," and "gives agriculture only such relief as is the result of an equalization to which the national importance of the food supply affords justification."⁵

An analysis of the debenture plan, and of the arguments used in its support, is pertinent to current discussions of possible aids to agriculture. Here attention will be directed mainly to certain arguments from anal-

3. Says the Grange in its leaflet: "It is simple, workable, dependable, will raise farm prices without requiring a salaried board, without complicated machinery, and without further delay. It is constitutional and can be put into operation for the present crop."

4. Whether in fact the administrative problem would be so simple may be questioned. It is significant that successive bills have become more and more complicated, and that the bills of April 11, 1928 seem to contemplate complex administrative action.

5. Stewart memorandum in *Agricultural Relief*, Hearings (April 1, 1926), p. 73. Cf. also the statement of the Grange, quoted below, p. 276.

ogy which are offered in support of the measure. These may have a special interest for economists, including those who are not directly concerned with our national agricultural policy.

I

ELEMENTS OF THE PLAN

First it is necessary to summarize the constituent elements of the debenture plan, more particularly as contained in H. R. 10568, introduced on February 6, 1928 by Representative Ketcham of Michigan, a former lecturer of the National Grange.⁶

Exporters of "debenturable agricultural commodities" would receive export debentures, issued by the Secretary of the Treasury, in amounts representing specified rates per unit of the products exported. These debentures would be negotiable certificates, transferable by delivery. They would be receivable at par, within one year from date of issue, in payment of customs duties on *any* imported product, without restriction. The total amount of debentures would be limited, under the Ketcham bill, to 50 per cent of the customs revenue in each year;⁷ but no limit is set for the amount of debentures.

6. This bill represents a development in advance of the McKinley-Adkins bills. It has been nearer the center of discussion than three successive export debenture bills introduced by Representative Marvin Jones of Texas (H. R. 17247, February 19, 1927; H. R. 9371, 10656, January 16, February 7, 1928). It is much simpler and less of a compromise than the identical Ketcham and Jones bills, H. R. 12892, 12893, introduced April 11, 1928. The latter contain most of the previous Ketcham bill, with certain modifications; provisions from the previous Jones bill for a federal farm board of five members headed by the Secretary of Agriculture, commodity advisory councils, and export corporations; together with provisions for a revolving fund, loans to co-operatives, and price insurance, which are not necessarily related to the debenture plan.

7. Under the McKinley bill, the limit was 100 per cent of the customs revenue. In the Jones bills it was 40 per cent, and there is further provision that "not more than 40 per centum of the duty on any particular article shall be paid in this manner."

tures issuable on any particular commodity. The theory underlying the measure is that farm prices of the entire crop of each debenturable commodity will be thereby raised above what they otherwise would be, by the amount of the debenture rate.

Under the Ketcham bill, the debentures would be issued under regulations established by a national export debenture board consisting of the Secretaries of Agriculture, Commerce, and the Treasury. One of the duties of this board would be to "advise producers . . . through their organizations or otherwise in matters connected with the distribution and marketing of any such commodity," and "in the development of suitable programs of planting and breeding," "in order that the producers may secure the maximum benefits under this Act." Other duties of the board are mentioned below.

The commodities "debenturable," according to the Ketcham bill, are wheat, corn, rice, fruit, swine, cattle, poultry, and food products thereof; cotton and cotton waste, tobacco, and manufactured products thereof.⁸ Any other agricultural commodity of which an exportable surplus is produced may be designated by the President for inclusion in the list if he finds, on report from the National Debenture Board or otherwise, that the cost of producing that agricultural commodity is above the cost of its production in competing foreign countries, and that its domestic price is unduly depressed by world prices.

The rates fixed in the McKinley-Adkins bills were identical with the existing tariff rates on these products, except that in the case of cotton, on which there is no import duty, the rate was set at five cents per pound. In the Ketcham bill the cotton rate was set at two cents

8. The lists in the McKinley and Jones bills differ by including oats and cottonseed, and omitting fruit, poultry, and food products thereof.

per pound, and the others at approximately half the import duty rates. When additional commodities were made debenturable by administrative action, such rates were to be prescribed as would equalize costs of production.

The Ketcham bill contains several provisions under which changes in these rates may be made by presidential action. First, if a tariff rate on any debenturable article is changed, the President may order such increases or decreases in the debenture rate as may be "necessitated by the change in the tariff rate or by the conditions which are responsible for such change in the tariff rate," "in order effectively to carry out the policy declared in Section 1." Second, he may, on the basis of cost investigations, prescribe such increases or decreases in the debenture rates as he finds to be necessary to equalize differences in costs of producing the debenturable commodity in the United States and in competing foreign countries, but such *increases* may not exceed the current tariff duty. Third, not later than thirty days before the beginning of a fiscal year, if he finds that the amount of debentures that will be issued during that year will exceed 50 per cent of the customs revenues that will be collected, the President shall prescribe for that year such reduction in debenture rates as he finds to be necessary to forestall this contingency. Fourth, prior to the beginning of a crop year, if he finds that the probable production of a debenturable commodity will exceed the average annual production of the commodity in the preceding five years, he shall prescribe reductions according to the following scale:

Percentage increase in production	0-20	20-40	40-60	60-90	90+
Percentage reduction in rate.....	0	20	50	75	99

To assist the President in determining the necessity for increases or reductions in debenture rates, and as an

essential preliminary to his action, the Debenture Board is directed to make investigations, giving "reasonable opportunity to parties interested . . . to be heard" at its hearings.

The principal modifications in the debenture plan as made in the revised Ketcham bill, H. R. 12892, introduced April 11, 1928, were five: (1) A federal farm board of five members headed by the Secretary of Agriculture was given the powers previously accorded to the national debenture board and to the President. (2) The express limitation on the amount of debentures issuable in one year was omitted. (3) Fruit, poultry, food products thereof, and cotton waste were stricken from the list of debenturable commodities. (4) The terms on which reductions in debenture rates should be made to check a possible stimulus to production were radically altered so that, if the average annual production of a livestock commodity or the average annual acreage of any other debenturable commodity shall for the two preceding years be found to exceed the corresponding average for the five years preceding those, the debenture rates shall be lowered for the ensuing calendar year in accordance with the following scale:

Percentage increase in production acreage	0-5	5-10	10-15	15+
Percentage reduction in rate	0	25	50	100

(5) Provision is made for the creation of federally owned export corporations if necessary "in order to afford the maximum benefits under this Act to the producers of debenturable agricultural commodities."

II

BOUNTY OR SUBSIDY

The export debenture plan thus calls for an export bounty, little disguised, on leading farm products in raw

or manufactured form.⁹ The exporter would receive, not indeed a bounty certificate redeemable in cash at the Treasury, but a certificate good at its face value for one kind of payment to the Treasury, namely, import duties. The effect on the Treasury would be the same as with an outright bounty: instead of the Treasury receiving import duties in full and paying the export bounties directly, under the debenture plan the revenues from imports, to the extent to which debentures were so applied, would be diverted to exporters and would not reach the Treasury at all. The effect on the exporters, and on the dealers and farmers from whom the farm products are purchased, would be the same except that the debentures might be expected to sell at a slight discount to offset the inconvenience involved in their use.

Whether or not this type of "export premiscus" can properly be dubbed a subsidy is a matter of definition. Strictly speaking, a subsidy is a direct payment made by the government to a private individual, group, or corporation, to encourage the recipient to carry on or develop a line of operations that is considered to be in the public interest and to require such a stimulus. As a matter of fact, few instances of subsidies in this strict sense are to be found in our history. We much prefer indirection in such matters. Thus, in the case of merchant marines, the commonest type of encouragement, here and abroad, consists in making remunerative contracts for the carriage of mail with concerns operating

9. A national policy of export bounties on farm products, as a measure of farm relief, was urged upon the National Grange, with the endorsement of the California State Grange, in the years 1894-97, on virtually the same grounds that are now urged on behalf of the debenture plan. The proponent was David Lubin, a member of the California Grange, and later the leading figure in the establishment of the International Institute of Agriculture. See statement of Thomas C. Atkeson, in McNary-Haugen Bill, Hearings (68th Congress, 1st session, February 25, 1924), Series E, pp. 343-350.

ships flying the national flag. In the United States in recent years the method of open subsidy has been avoided by selling government-owned vessels to private companies on very favorable terms, by having the government bear deficits incurred in the operation of government-owned lines, or by making operating contracts which involve the government in losses. In the project here under discussion, the object of the export debenture system is to stimulate bidding by exporters so that domestic prices will be raised, and this is to be done at an expense to the government. In form no subsidy is involved; but in substance the scheme differs from a subsidy scheme mainly in two respects. First, the exporters are expected, not to keep the proceeds of the debentures to offset special costs of their own, but to pass them back to the growers in the form of higher prices paid for farm products. Second, it is expected that growers will profit not merely by the amount of the Treasury burden, but by an additional amount derived from purchasers of wheat for domestic use. Thus, if wheat farmers should sell 750 million bushels of wheat and 200 million bushels of this were exported, it would be calculated that with a debenture rate of twenty-one cents per bushel the Treasury burden would be \$42,000,000, while the increased return to the growers would be \$157,500,000.

The authors of the export debenture plan recognize that it involves what is virtually an export bounty and has certain similarities to a subsidy. According to Professor Charles L. Stewart, the principal author of the plan, the legal principle underlying the debenture is as follows:

The sending of certain farm products out of the United States may justify the Nation in enabling the diminished stock of these products to be replenished by dutiable goods brought in with the tariff collection waived.

Tariff-waived replacement of exportables by dutiables is the heart of the debenture plan. It rests upon the power of Congress to levy and collect duties on imports. That power carries with it the power to refuse either to collect or to levy duties on some goods as in the case of duty-free or free-list goods. It carries with it the power to levy and collect and then remit a part or all of the collected duties, as in the case of drawbacks of duties. It carries with it the power to levy and collect duties on a basis of partial waiver, as in the case of duties reduced on goods from reciprocity countries.¹

The particular form was designed in part to evade possible constitutional obstacles in the way of cash bounties, in view of a decision of the Supreme Court of the District of Columbia, in 1895, in respect to bounties on sugar production;² and in part to avoid exciting congressional and popular prejudices against what may be easily labeled bounties or subsidies. Still other reasons for preferring the customs remission type of export premium to the cash bounty are sometimes mentioned. Whether these objects would actually be attained must remain for the present an open question. In any event, the proposal deserves to be judged primarily on the basis of its economic merits or demerits. But it is illuminating to scrutinize certain arguments from analogy which have been adduced in support of the measure.

III

RELATION TO HAMILTON'S BOUNTY PROPOSALS

Advocates of the export debenture plan have invoked the magic of an illustrious name. In opening his testi-

1. *Journal of Farm Economics* (January, 1928), x, 29.

2. See *U. S. vs. Carlisle* (decided January 5, 1895), 5 App. D. C. 138, especially 146-162. Bounties on the domestic production of sugar were paid under a provision in the revenue act of October 1, 1890, which was repealed on August 28, 1894. During this period no attack upon the constitutionality of the payments was made. The decision referred to was made by the vote of two justices after the repeal of the bounty provision. When the point of constitutionality was subsequently raised in cases before the United States Supreme Court, that court refused to pass upon it. The constitutionality of bounties on production, or on export, open or disguised, must be regarded as undetermined.

mony before the Senate Committee on Agriculture, March 31, 1926, Professor Stewart said: "It carries out a recommendation which Alexander Hamilton, the first Secretary of the United States, made to the Congress in 1791." The National Grange put first on its list of "Questions and Answers that further explain the export debenture plan" the following:³

Q. Who first suggested the export debenture plan or some equivalent method?

A. Alexander Hamilton in 1791. In his report to Congress he advised tariffs but pointed out the need of export bounties, export premiums, or the export debenture idea as an offset to farmers and others who could not benefit directly from the tariff.

Hamilton clearly was not the author or even the inspirer of the debenture plan in its recent form; but its leading supporters agree in regarding him as an authoritative believer in such a measure.

The quoted statements appear to rest mainly upon portions of the following passage from Hamilton's famous Report on Manufactures.⁴

Bounties are, sometimes, not only the best, but the only proper expedient for uniting the encouragement of a new object of agriculture with that of a new object of manufacture. It is the interest of the farmer to have the production of the raw material promoted by counteracting the interference of the foreign material of the same kind. It is the interest of the manufacturer to have the material abundant and cheap. If, prior to the domestic production of the material, in sufficient quantity to supply the manufacturer on good terms, a duty be laid upon the importation of it from abroad, with a view to promote the raising of it at home, the interest both of the farmer and manufacturer will be disserved. By either destroying the requisite supply, or raising the price of the article beyond what can be afforded to be given for it by the conductor of an infant manu-

3. Cf. also its more explicit statement: "The export debenture or bounty plan . . . was proposed by Alexander Hamilton as a part of the original tariff system in the United States."

4. Industrial and Commercial Correspondence of Alexander Hamilton, etc., edited by Arthur H. Cole (Chicago, 1928), p. 291. The first sentence in this quotation, slightly altered, is given on the title-page of the National Grange leaflet already mentioned.

facture, it is abandoned or fails, and there being no domestic manufactures to create a demand for the raw material, which is raised by the farmer, it is in vain that the competition of the like foreign article may have been destroyed.

It cannot escape notice, that a duty upon the importation of an article can no otherwise aid the domestic production of it, than by giving the latter greater advantages in the home market. It can have no influence upon the advantageous sale of the article produced in foreign markets — no tendency, therefore, to promote its exportation.

The true way to conciliate these two interests is to lay a duty on foreign manufactures of the material, the growth of which is desired to be encouraged, and to apply the produce of that duty, by way of bounty, either upon the production of the material itself, or upon its manufacture at home, or upon both. In this disposition of the thing, the manufacturer commences his enterprise under every advantage which is attainable, as to quantity or price of the raw material; and the farmer, if the bounty be immediately to him, is enabled by it to enter into a successful competition with the foreign material. If the bounty be to the manufacturer, on so much of the domestic material as he consumes, the operation is nearly the same; he has a motive of interest to prefer the domestic commodity, if of equal quality, even at a higher price than the foreign, so long as the difference of price is anything short of the bounty which is allowed upon the article.

A careful examination of Hamilton's report, including this particular passage, fails to justify the inferences drawn by the exponents of the debenture plan. Hamilton's primary concern was with the promotion of manufactures. In speaking of bounties he clearly has in mind, in the main, bounties on the production of manufactured goods, and occasionally bounties on the export of manufactured goods. He even questions, parenthetically, whether "the allowance on the exportation of dried and pickled fish and salted meat could be considered as a bounty."⁵ When he refers, as in the passage quoted and elsewhere, to bounties on agricultural production, he advocates them solely as a means of stimulating the domestic production of agricultural raw materials, and only in cases where we produce inferior

5. *Industrial and Commercial Correspondence of Alexander Hamilton, etc.*, edited by Arthur H. Cole (Chicago, 1928), p. 290.

amounts, of too inferior quality, or of too high a price to supply the needs of an infant manufacturing industry. In the first sentence quoted above, he specifically speaks of "uniting the encouragement of a new object of agriculture with that of a new object of manufacture." He refers to specific instances only in a few passages of the report. He argues for the repeal of the duty on cotton, and, instead, the grant of "a bounty on the national cotton, when wrought at a home manufactory; to which a bounty on the exportation of it may be added."⁶ With reference to wool, he says: "Premiums would probably be found the best means of promoting the domestic, and bounties the foreign supply."⁷ For practical reasons he refrains from recommending bounties on flax and hemp.⁸ His object in each case is to stimulate domestic production without raising the price to the manufacturer. In his general discussion of pecuniary bounties, indeed, he emphasizes the point that the grant of a bounty "avoids the inconvenience of a temporary augmentation of the price . . . or it produces it to a less degree."⁹

The similarities between Hamilton's proposals and the debenture plan are three: Hamilton endorsed the principle of bounties; he favored the application of this principle, to a limited extent, to agricultural products;

6. *Industrial and Commerical Correspondence of Alexander Hamilton, etc.*, edited by Arthur H. Cole (Chicago), p. 312.

7. *Ibid.*, p. 314. It is not quite clear whether Hamilton meant by this to propose a bounty on importation or a bounty on domestic production of the type of wool then produced only abroad.

8. *Ibid.*, p. 309.

9. *Ibid.*, p. 290. Speaking of the cotton duty as a "very serious impediment" to the progress of cotton manufacture, and referring to the passage already quoted, he says (*ibid.*, p. 311): "The injurious tendency of similar duties, either prior to the establishment, or in the infancy of the domestic manufacture of the article, as it regards the manufacture, and their worse than inutility, in relation to the home production of the material itself, have been anticipated, particularly in discussing the subject of pecuniary bounties."

and he contemplated that bounties should be covered out of tariff revenues.¹ Alongside these superficial resemblances, the contrasts are striking and fundamental. Hamilton's limited commendations of bounties on agricultural products related chiefly to bounties on production — not on export; they were designed to stimulate the production of a "new object of agriculture," of which we produced too little to supply manufacturers with sufficient raw material of satisfactory quality at moderate price; and he sought to cheapen these materials, not to make them dearer. The export debenture plan, on the other hand, relates solely to export bounties; it concerns the export of "old objects of agriculture,"² of which we already produce a more or less substantial export surplus; and it seeks to raise the price without stimulating the production.

Whether, in the present day, Alexander Hamilton would be a supporter of the export debenture plan, it is hardly possible and quite unnecessary to decide. Present conditions are radically different from those that he faced. Many supporters of this and other plans for farm relief are convinced that manufacturers have been unduly favored by the government, and that agriculture languishes in consequence. Assuming this to be true, Hamilton's language suggests that he might today be sympathetic with a proposal to offset special advantages to manufactures by special advantages to agriculture, rather than to withdraw favors previously granted to manufactures. But it is only in the broad philosophy underlying his report, if at all, rather than

1. *Industrial and Commerical Correspondence of Alexander Hamilton, etc.*, edited by Arthur H. Cole (Chicago, 1928), p. 318. Hamilton contemplated that the increased duties proposed by him would finance not merely the bounties but certain other types of expenditures for encouraging manufactures. It may be added that Hamilton seems to have entertained no doubt as to the constitutionality of bounties.

2. Surely none of the debenturable commodities could be properly designated "new objects of agriculture."

in specific passages of it, that one can find justification for counting him as an anticipatory endorser of the debenture scheme.

IV

COMPARISON WITH THE GERMAN IMPORT CERTIFICATE SYSTEM

Spokesmen for the debenture plan have reiterated the argument that it is "based upon a lot of world experience in making tariff systems effective for agriculture," and may therefore be "regarded as a tried system."³ The National Grange puts second on its list of "Questions and Answers" the following:⁴

Q. Where is the export debenture plan in use and with what success?

A. In Germany, Sweden, Czecho-Slovakia and in partial use in a number of other countries. Reports indicate benefit to agriculture in each case.

Specific references, however, have been made only to German experience with what have been known as import certificates (*Einfuhrscheine*).

The German system,⁵ which has applied mainly to

3. Stewart memorandum, in *Agricultural Relief*, Hearings (April 1, 1926), p. 73.

4. Cf. also their statement that the plan "is in fact a recognized supplement to the protective tariff system in many nations today."

5. The system is discussed in English in *Foreign Crops and Markets* (March 29, June 28, 1926), xii, 401, 402, 881-890. The latter is essentially a report prepared by Dr. Frederick Sohn and Miss Elna C. Anderson of the Berlin office of the Bureau of Agricultural Economics. See also L. Domeratzky, *Tariff Relations between Germany and Russia* (1890-1914); U. S. Department of Commerce, *Tariff Series No. 38* (Washington, 1918); and *Commercial Intelligence Journal* (Canada), November 5, 1927, pp. 649 ff. The present writer has also consulted a number of German sources, including the following: Fritz Beckmann, "Erneuerung der Einfuhrscheine," in *Archiv für Sozialwissenschaft und Sozialpolitik* (1925), liv, 446-468; Beckmann's articles on "Einfuhrscheine" and "Identitätsnachweis" in the latest editions of the *Handwörterbuch der Staatswissenschaften*; *Stenographische Berichte des Deutschen Reichstages* (2d session, 1893-94), pp. 1084-1101, 1276, 1277; *Verhandlungen des Reichstages* (2d session, 1909-10), No. 370; and B. H. Roncador, *Wesen und Wirkung der Agrarzölle* (Jena, 1911), especially pp. 128-147.

cereals and pulses, was first adopted in 1894. It remained in force, with certain modifications in 1906 and 1911, until the outbreak of war in 1914. On October 1, 1925, it was reestablished, in a slightly modified form; and on April 15, 1928, it was extended to live hogs and certain hog products. In other countries, so far as we are aware, the system has been adopted only since it was reestablished in Germany. Judgment upon the results of the policy must rest largely upon Germany's pre-war experience with it.

In form, the German import certificates are almost identical with the proposed export debentures. They are negotiable instruments, transferable by delivery, issued to exporters of specified agricultural products or specified manufactures thereof. The certificates represent a value corresponding to minimum tariff rates on imports of the designated commodities, as under the McKinley-Adkins bills. Within a limited period (now nine months) from date of issue, they are receivable at par in payment of import duties. Unlike the proposed debentures, however, the certificates may be tendered in payment of customs duties only on certain classes of imports, at present chiefly the same classes on which the certificates are issued; but in practice this is not now a factor materially restricting their use or depreciating their value. The German certificates usually sell at a slight discount, sometimes at more than a nominal one.

Significant contrasts, however, appear between the German system and the debenture plan when one considers the conditions under which they are applied, their objects, and their effects.

Throughout the period of the import certificate system Germany has been a net importer of the group of products to which the system is applied. She is regularly a net importer of most of these products. In the

case of a few, notably rye and oats, she has become, during the vogue of the system, normally a net exporter; but even of these she is frequently a net importer. By contrast, the United States is regularly a net exporter of all of the debenturable products — tho not of certain classes such as high-protein wheats and long-staple cotton.

Germany adopted the import certificate system, not to promote the prosperity of her agriculture in general, but to counteract certain undesired incidental effects of the agrarian protective policy adopted in 1879 and accentuated by increases in tariff rates in 1885 and 1887. This policy had caused an uneconomic dislocation of trade, and worked a discrimination against the politically powerful grain producers of eastern Germany. That region, unlike most of Germany, normally produced more grain than it consumed. Shipment costs to central, southern, and western Germany were heavier than to Scandinavian and British markets. Moreover, the character of this wheat (which is low in gluten content) was such that it could be used to better advantage in these export markets than in Germany, especially when mixed with hard Russian wheats; and the business of mixing grain had become a profitable enterprise in German Baltic ports. With the adoption of duties on agricultural products, grain prices were raised in the deficiency regions of Germany by practically the full amount of the duty. The producers of eastern Germany, however, failed to get a corresponding advantage. Their grain, in moving westward by rail even at reduced railway rates, had to bear heavier costs of shipment than prevailed on the export routes, and in addition suffered a discount for quality. The remunerative mixing business shrank, and with it the trade of the Baltic ports. The purposes of the import certificate system, therefore,

were to remove obstacles to the most economical movement of grain, to permit the resumption of the mixing and export trade of eastern Germany, and to enable the producers of that region to realize, from the sum of their export prices and the proceeds of the sale of their import certificates, a return equivalent to the tariff-raised prices in the rest of Germany.

These objects were in large measure achieved, and during most of the pre-war period the system was generally viewed with satisfaction. Even outside of eastern Germany, the scheme in operation met with approval. The farmers in central Germany were pleased not to have to meet a kind of forced competition from the undutiable grain of eastern Germany, and the flour millers in central, southern, and western Germany were relieved of the special difficulties involved in the use of large quantities of east-German wheat. The only losers by the system were the millers and consumers in eastern Germany, for whom higher prices resulted, and possibly the railways, which carried less westbound grain.

By contrast, the proposed debenture plan is in no sense designed to correct any regional discriminations, or to prevent an uneconomic dislocation of trade resulting from other national policies. Indeed, in operation it might even create certain regional discriminations and cause certain uneconomic shifts in trade. Moreover, the German certificate is part of a protective system designed to stimulate Germany's output of agricultural products, whereas the debenture plan is really designed to render farmers more prosperous without stimulating their production.

The German system, as it was applied up to 1906, provided that the certificates obtained on the export of any one product were to be receivable, within a period of six months, in payment of duties on the import of

that product only (or, in the case of manufactured goods like flour, on a corresponding amount of the raw material), except that after a period of four months they might be tendered, for a period of six months, for import duties on coffee, petroleum, and certain other products which were subject to purely revenue duties. After March 1, 1906, the certificates were valid only for six months from date of issue, but could be tendered in payment of customs duties on any of the unmanufactured commodities named, and on coffee and petroleum as well. In 1911 they were made invalid for payment of customs duties on coffee and petroleum. In 1925, the late pre-war provisions were substantially reestablished, but the validity of the certificates was extended to nine months. The recent extension of the system applies to exports of live hogs, of fresh, frozen, or simply prepared pork, and of ham in hermetically sealed containers; and the certificates received are valid for import duties on cereals and pulses, and on certain feedstuffs, too.⁶

The apparently innocent modification of the system in 1906 (under the tariff act of 1902), whereby the certificates were interchangeable among the specified commodities, was followed by developments that had not been anticipated. In the next few years, particularly because of changes in eastern Germany, German acreage and production of rye and oats increased appreciably, while the acreage of wheat and barley diminished slightly and their production increased very slightly. Germany became a net exporter of rye and oats, in certain years at least, while imports of wheat and barley increased. German students differ as to the extent to which the change in the system was responsible for this development. To the extent that it was, the modified system approximated a bounty measure, as applied to eastern

6. Commerce Reports, June 18, 1928, p. 760.

Germany and to rye and oats in particular, and in certain quarters it was subjected to criticism on this ground. The post-war system may be open to the same charge, especially as regards rye, oats, and swine products; but it is too early to determine what its real effects will be.

It is, however, only in this restricted sense and degree that the German system is comparable in substance with the proposed debenture plan, which clearly involves export bounties very slightly disguised. Except for the possibility just mentioned, the German system involves no bounty on exports, but leads merely to the replacement of certain exported goods by imported goods of practically the same classes, tho with some shifting between commodities such as rye and wheat, oats and feed barley. The net import is about the same as it would be without the system; importations are larger, but part of these imports come in without yielding revenue to the Treasury because import certificates are tendered in place of cash. The system, therefore, involves no appreciable diminution in Treasury revenues from import duties, while the proposed debenture plan certainly would entail a substantial diminution.

In short, the objects of the two schemes, and the conditions of their application, are so strikingly different that it is impossible to argue that such success as the German plan may have had in attaining its purpose implies the success of the American plan in attaining the ends sought here. Moreover, the German system, as applied before the war, proved to have certain unanticipated results that were not regarded as economically desirable. It is quite conceivable that the unexpected consequences of the proposed debenture plan, which is of much broader scope, might be even more far-reaching and even less desirable.

V

ANALOGIES TO THE PROTECTIVE TARIFF

The proponents of the debenture plan admit that it would entail a reduction in tariff revenues, on any given scale of import duties, by preventing a substantial portion of these duties from reaching the Treasury.⁷ They argue, however, that this is not essentially different from what occurs under a protective tariff. If, they say, revenue were the sole or major object of a tariff, much more could easily be raised; in so far as protective duties restrict importations to an extent more than offsetting the higher rates of duty, they reduce tariff revenues; the debenture system, in reducing net revenues from imports, is no more to be condemned on this score than is the protective tariff itself.⁸ To this reasoning, so far as it goes, no exception can be taken. There is, however, an important question of degree. When the diversion of so great a sum as 50 per cent of the import revenues is involved in a single measure, it requires as careful scrutiny as would the outright appropriation of the same amount. No mere analogy to the tariff should prevent consideration of the question whether the probable net benefits of such a policy will be worth the cost.

A specific analogy to drawback privileges is also urged. To quote the National Grange leaflet:

Under the tariff draw-back arrangement our manufacturers are actually paid what amounts to an export bounty on goods sold abroad. They receive cash payments from the government in proportion to the amount of goods exported. This practice is based on the theory that our manufacturers should not be compelled to pay

7. In spite of this, Professor Stewart asserted in the testimony quoted above: "This plan would secure for the producer increased prices without dipping into the Public Treasury."

8. Cf. Stewart's paper in *Journal of Farm Economics* (January, 1923), x, 31.

duties on raw materials imported for manufacture and later included in manufactured articles sold abroad. It is contended that the manufacturer cannot afford to pay the protected domestic price for these imported materials if he is to sell abroad at world price levels. This is exactly the contention of the American farmer; he cannot pay the protected price for labor, supplies and other production factors and at the same time sell at the foreign price level not only abroad but at home as well.

This persuasive analogy, like the others, weakens under examination.

When a manufacturer imports dutiable materials, pays the duty, and manufactures them, he can readily calculate what the duty has added to his unit cost. The drawback on the export of the manufactured article roughly approximates the addition. But when one asks what rate of debenture, analogous to the drawback, will offset such added expense as the protective system entails, none can answer. It is not sufficient to compare costs at home and abroad, even if that could be done. The logic of the argument calls for offsetting only such additional expense as the protective system involves.

During many years of what was regarded as agricultural prosperity, American farmers paid prevailing prices for hired labor, purchased supplies, and borrowed capital, and their surplus production went abroad at foreign prices. How was this possible? While labor gets higher wages here than abroad, it is generally so much more effective here that labor costs per unit of output are by no means universally high. Some supplies that the farmer buys are undoubtedly higher in price because of the tariff, but many are relatively low in price here for reasons independent of our tariff policy. There are some grounds for believing that farming costs per unit of output may be higher because of the protective system, in one form or another, but even this is difficult to prove. The extent of the additional cost attributable to

the tariff and other forms of protection is quite beyond the possibility of computation. It is significant that there has been no attempt to justify any particular set of debenture rates by reference to any such calculations.

Another sort of analogy to the protective tariff is much stressed by proponents of this measure as well as by those supporting the McNary-Haugen plan. This idea is well expressed in the declaration of policy in the McKinley-Adkins bills — "to make more effective the operation of the tariff upon agricultural products and provisions, so that such commodities will be placed upon an equality under the tariff laws with other commodities";⁹ or as stated in the Ketcham bill — "to afford to those agricultural commodities of which surpluses above domestic requirements are produced in the United States the same degree of protection which is afforded to industry in the United States by the tariff."¹ These constitute an elaboration of two favorite farm-relief slogans — "Equality for agriculture" and "Make the tariff effective for agriculture." To quote Professor Stewart, "This plan would pass protection around to producers whose need has been emphasized for several years."²

Behind this concept, as numerous elaborations of it make abundantly clear, lies the notion that the object of a protective tariff is permanently to raise the prices of the protected commodities, for the benefit of the producers thereof, and that this is the normal effect of pro-

9. A following clause in the McKinley bill embodies a different idea: "and to advance the market for agricultural products and provisions so as to place producers in the United States on a more equitable basis of competition with producers of similar products exported from other countries."

1. Parenthetically it may be remarked that there is slender foundation for the view, frequently expressed, that protected industries routinely sell their products abroad for prices lower than domestic prices.

2. Agriculture Relief, Hearings (March 31, 1926), p. 44.

protective duties. In such a view, the effectiveness of a tariff is measured by the extent to which prices are raised under its operation, and a tariff is "100 per cent effective" only when it results in raising prices to the full extent of a duty. If this were true, a real analogy to the debenture plan would exist.

This notion enjoys wide currency, but it is ill founded, none the less. The extreme protectionist, indeed, may be content with nothing short of the practical elimination of foreign competition and, in addition, the raising of domestic prices to the full extent of the duty. But no such position has ever been given general endorsement.

In truth, the raising of prices of the protected commodities is essentially a proximate aim; the fundamental purpose is to stimulate domestic production by keeping out foreign competition or rendering it less effective. In the short run, a tariff is "100 per cent effective" if it serves to keep out competing foreign goods altogether, even tho domestic prices may be raised by much less than the amount of the duty. In this sense, most of our agricultural tariff duties are reasonably effective. In the longer run, the reasonable objective of a tariff is fulfilled if domestic production is stimulated to the point where it covers domestic requirements, even tho prices are no longer above *c. i. f.* prices of foreign goods. Indeed, the application of a protective tariff is properly regarded as most successful when the protected industry so expands that its prices are lower than if no tariff had been imposed, and that it exports to foreign markets in competition with foreign-made goods such as were formerly imported. Permanent increases in domestic prices as a result of tariff duties, and continued substantial importations of foreign goods paying these duties, are not indications of complete effectiveness of

a tariff, but indications that it has fallen short of achieving one of its central objects.

Alexander Hamilton, in his Report on Manufactures, clearly expressed the true view of the normal effect of a protective policy on the prices of the goods concerned:³

It is not an unreasonable supposition, that measures which serve to abridge the free competition of foreign articles, have a tendency to occasion an enhancement of prices; and it is not to be denied that such is the effect, in a number of cases; but the fact does not uniformly correspond with the theory. A reduction of prices has, in several instances, immediately succeeded the establishment of a domestic manufacture. Whether it be that foreign manufacturers endeavor to supplant, by underselling our own, or whatever else be the cause, the effect has been such as is stated, and the reverse of what might have been expected.

But, though it were true that the immediate and certain effect of regulations controlling the competition of foreign with domestic fabrics, was an increase of price, it is universally true that the contrary is the ultimate effect with every successful manufacture. When a domestic manufacture has attained to perfection, and has engaged in the prosecution of it a competent number of persons, it invariably becomes cheaper. Being free from the heavy charges which attend the importation of foreign commodities, it can be afforded, and accordingly seldom never fails to be sold, cheaper, in process of time, than was the foreign article for which it is a substitute. The internal competition which takes place, soon does away with everything like monopoly, and by degrees reduces the price of the article to the minimum of a reasonable profit on the capital employed. This accords with the reason of the thing, and with experience.

Whence it follows, that it is the interest of a community, with a view to eventual and permanent economy, to encourage the growth of manufactures. In a national view, a temporary enhancement of price must always be well compensated by a permanent reduction of it.

In Hamilton's view, in other words, the normal eventual outcome of a protective policy is to cause prices of the goods to be, not higher, but lower, than they would

3. Cole, *op. cit.*, p. 281. The following sentence later in the report (pp. 290-291) is contradictory only in appearance: "An increase of price is not always the immediate, though, where the progress of a domestic manufacture does not counteract a rise, it is, commonly, the ultimate effect of an additional duty."

be if no protection had been accorded. The ultimate effectiveness is to be gauged, in part, by the degree to which this ultimate cheapening is actually secured. At one point in his report Hamilton even says: ⁴ "The continuance of bounties on manufactures long established, must almost always be of questionable policy: because a presumption would arise, in every such case, that there were natural and inherent impediments to success." The same logic might well have led him to hold that where the effect of a duty was indefinitely to hold up the price of the goods concerned, the case for continued encouragement would be at least gravely weakened.

The protectionist position has, of course, developed beyond the one taken by Hamilton. The conviction that our high standards of living, our high wage rates, rest primarily upon our tariff policy is firmly held today, despite much evidence on the importance of other factors. Accordingly, if so many prices are kept up by the tariff that our price level as a whole is above what it would be under free trade or lower tariffs, this is not regarded as a weighty criticism of the tariff policy. Even so, it is quite contrary to reason and evidence to assume that the purpose of the tariff is permanently to raise prices by the amount of the tariff rates, and that tariff duties commonly and generally have this effect.

In sum, the price-raising aim of a tariff is only a proximate one; the primary aim is the stimulus to domestic production, with the prospect that prices will not continue to be raised as much as at first, and the possibility that eventually prices may be lower than if no protection were accorded. In the case of the debenture plan, on the contrary, the primary objective is permanently to raise farm prices of farm products, by the full amount of the debenture rate; while a stimulus to domestic pro-

4. Cole, *op. cit.*, p. 292.

duction is so far from being an objective that the Ket-cham bill contains provisions designed to prevent its occurrence.⁵

In one respect only the analogy seems to hold. Under the debenture plan, as under certain phases of tariff protection, price elevation is sought in part to relieve existing or threatened depression in an industry already established. The means proposed, however, are by no means the only ones, or necessarily the most appropriate or effective ones, for achieving this result. The prosperity of different industries in this country does not vary directly with the amount of tariff protection accorded, or with the degree to which they are actually dependent upon protective duties. Among the least prosperous industries are several which have long been most highly protected; among the most prosperous are several which, regardless of past benefits from protection, have long been substantially independent of it. Industrial tariffs as a whole are properly aimed, not to increase the prosperity of manufacturers as a class, but to increase the volume and variety of manufactures. It is true that national prosperity and the general welfare are properly the broad basis on which support of any such measure must rest; but it is confusing, not clarifying, to speak of "making the tariff effective for agriculture" when in most lines it is already effective in the better sense of the term, and when making the tariff effective for industry in the false sense would properly raise grave objections on many sides.

The advocates of "equality for agriculture," if forced

5. It is indeed argued that without some aid to agriculture we shall shortly become net importers of agricultural products as a whole and increasingly dependent on foreign countries for our food supply. But if this is an ominous outlook, it is only in a narrow statistical sense that it can be altered by stimulating the output of farm commodities which we already produce for export.

to accept the foregoing reasoning, can fall back upon a deep-seated conviction which they have done much to popularize. This conviction is that our national policy has been to grant "protection" in one form or another to industry, to shipping, to the railways and other public utility companies, and to labor; and that farmers are forced to bear their share of the burdens entailed in the protection of other interests and yet — by reason of the fact that agricultural tariffs are of limited "effectiveness" in raising prices because we are exporters of many great agricultural products — secure few benefits from protection for themselves. The debenture plan and the McNary-Haugen plan are both framed and argued for in such a way as to appeal to those who hold this conviction, and particularly to those who venerate the protective tariff. Thus the National Grange says:

Equality between agriculture and the industrial and commercial groups could be restored either by pulling down the artificial high-price structure made possible for these latter groups through such legislative devices as protective tariffs, immigration restriction, railroad rate legislation, exclusive patents and tariff rebates, or the readjustment could be made by enabling agriculture to take advantage of similar devices to raise itself to this same price level and thus meet the difference in costs of production here and abroad. The Grange prefers the latter — the constructive method — rather than the destructive and disruptive method.

Since the inequalities resulting from the tariff system are the chief source of difficulty, the logical and sensible thing to do is apply the remedy at that point.

To discuss the justification of this view would take us too far afield. Here it will suffice to observe that, if the conviction is well founded, the situation warrants a modification of our national policy to correct this discrimination against farmers as a class and agriculture as an occupation and field of enterprise; but it carries no presumption in favor of any particular mode of correcting that discrimination. Measures utterly unlike

and unrelated to the protective tariff are no less appropriate for consideration than any which can be made to appear analogous to it.

VI

CONCLUSION

In conclusion, it appears that supporters of the debenture plan have relied upon analogies that are superficial rather than substantial. Alexander Hamilton did indeed give a limited commendation to bounties on agricultural production, but under conditions and for purposes utterly different from those that are in the minds of the advocates of the debenture plan. The German import certificate is superficially similar to the export debenture, but the system differs so radically from the debenture plan in conditions and aims that the effects of the debenture plan would presumably be quite different. The major analogy between the export debenture plan and the protective tariff rests largely upon distorted notions of tariff aims and effectiveness.

These criticisms, of course, do not dispose of the matter. The adoption of the debenture plan may be justified even tho many arguments for it are unsound, and even if one cannot properly cite in support of it the past experience of the United States and other nations. But when so considerable a body of argument weakens so greatly under critical scrutiny, one's faith in the whole reasoning of its supporters is shaken; and there is a clearer need for careful independent examination of the proposed measure and how it would probably work.

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THE GERMAN BUILDING GUILDS¹

SUMMARY

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I

THE German building-guild movement, or Bauhüttenbewegung, claims a fourfold significance. In the first place, it is asserted that the guilds are the one concrete result of the enthusiasm of the German masses for the idea of "Socialization" in the days of the Revolution. They are, also, the most long-lived and successful of all the experiments in economic self-help on the part of building workers in many lands. Further, the movement is said to indicate a means whereby the unions may become the agencies for participation of the working class in industry — a contribution of significance in view of the narrow import of the Betriebsräte and Wirtschaftsräte. Finally, the guilds are described as schools in which the power to use such means may be developed.

The occasion for the German experiment was furnished by the post-war need for dwellings. In 1919 there was a shortage of at least 600,000 homes, a lack that bore especially upon the working class.² The industry

1. For the opportunity to gather the material on which this article is based I am indebted to the Social Science Research Council. To Herren A. Ellinger and Walther Astor, of the Verband sozialer Baubetriebe, Berlin, I am under obligation for most generous assistance.

2. Cf. Denkschrift des Reichsarbeitsministers über die Wohnungsnot und ihre Bekämpfung, December 10, 1927.

lay inert so far as this type of construction was concerned. Material prices had risen, building workers were scarce and relatively inefficient, and capital avoided an industry in which, on account of rent restrictions and uncertainty regarding the trend of prices, it was impossible to look forward to securing satisfactory returns.³ The general conviction was that without aid from public funds it would be impossible to revive building enterprise in homes.

Under these conditions, a large number of *Baugenossenschaften*, or coöperative building societies of the sort that had come to be well recognized before the war, were founded. Convinced, however, that this type of organization was unsuited to the demands of production, Dr.-Ing. Martin Wagner, at present *Stadtbaurat* of Berlin, induced the *Märkische Heimstätte*, *Siedlungsbank für Berlin und die Provinz Brandenburg*, to coöperate with the *Bauarbeiterverband* in establishing the first "guild." *Bauhütte Berlin, G.m.b.H.*, came into being in October, 1919, as a "building society based on social principles." By the end of 1922 there were 207 similar bodies. This was the high point of the numerical development; since then the number has fallen because of bankruptcies and amalgamations. The figures for the years 1924-28 are 181, 168, 165, 150, and 138 respectively.

The *Verband sozialer Baubetriebe*,⁴ *G.m.b.H.*, the central body of the movement, was founded in 1920. Its legal seat is in Hamburg, as are most of the building-union headquarters, and its business offices in Berlin.

3. R. R. Kuczynski, *Post-war Labor Conditions in Germany*, U. S. Bureau of Labor Statistics, Bulletin No. 380 (1925), pp. 33-47.

4. Henceforth to be referred to as the V.s.B. This body was founded by the *Bauarbeiterverband*, the *Bund der technischen Angestellten und Beamten*, and the *Verbände der Maschinisten und Heizer, der Fabrikarbeiter, der Maler, der Steinsetzer, der Dachdecker, der Asphalteure*.

As the number of guilds has decreased, the number of men employed by them has risen. The yearly averages were: in 1924, 13,643; in 1925, 14,006; in 1926, 16,303; in 1927, 16,828. In the least active months of 1925-27 the following were employed: 1925, 10,492; 1926, 9845; 1927, 9279. The largest number of men at work in any one month of the year was: 1924, 22,194; 1925, 22,611; 1926, 23,691; 1927, 25,186. The business done amounted in 1924 to 41,045,370M.; in 1925, to 68,429,966M.; in 1926, to 81,373,457M.; and in 1927 to 103,444,297M.⁵ Of the total in this last year, 63.6 per cent consisted of building for coöperative bodies, 19.2 per cent for public bodies, and 17.2 per cent for private persons. The wage-bill in 1927 was 37,519,978 M. Orders in hand at the end of this year amounted to 32,530,689 M. Up to this time 50,800 small dwellings had been erected by Bauhütten.⁶ These figures suggest the extent of the German guild movement.

The membership falls into two groups — 111 general builders, and 27 specialized units such as painting and plumbing concerns. Besides these there are 15 branches of local guilds and a number of plants — eight brick-yards, three stone quarries, five sand pits, five sawmill works, and so forth.

After the inflation, in 1924, the total capital, including the 150,000 gold marks capital of the V.s.B., was so limited as to allow only 850 M to each of the 181 guilds.⁷ The 1924 convention of the Bauarbeiterver-

5. Attention is centered on the years since 1924 because of the comparative meaninglessness of figures during the inflation. Cf. Walther Simmermacher, "Verband sozialer Baubetriebe," in the volume published by the Allgemeine Deutschen Gewerkschaftsbund entitled *Die wirtschaftlichen Unternehmungen der Arbeiterbewegung* (Berlin, 1928), p. 53; cf. also *Bauhüttenarbeit* (Berlin, 1928), pp. 13-19.

6. *Soziale Bauwirtschaft*, viii, 17-18, p. 270; also *Bauhüttenarbeit* (Berlin, 1928), p. 38.

7. *Soziale Bauwirtschaft*, vii, 18-19, p. 265.

band provided that five per cent of the central-office receipts were in future to be set aside for the movement. On December 31, 1927, the capital of the V.s.B. was 3,000,000 M., and that of the individual Bauhütten — contributed by local unions, by consumers' coöperatives, and, in some cases, by the Länder, Kreise and Gemeinde — 3,767,070 M., to which may be added reserves and net profits of 1,401,790 M., making a total of 8,168,860 M.⁸ The financial development of the movement has been hampered by the bad Konjunktur since the inflation and by the severe unemployment among building workers. The guilds have complained, also, of the difficulty of capital creation because of the tax burden.⁹

The growth of the Bauhütten has been bound up with the development of allied coöperative institutions of the working class. The most important are the Arbeiterbank (Bank der Arbeiter, Angestellten und Beamten A. G.), the "Dewog" (Deutsche Wohnungsfürsorge A. G. für Beamte, Angestellte und Arbeiter) and its daughter societies, and the "Volksfürsorge" insurance associations. These bodies, with the V.s.B. and the consumers' societies, are often said to form the pillars of the

8. The sharp competition in 1927, to which many private concerns as well as nine Bauhütten fell victim, is indicated in the financial reports. Against a loss-balance (Verlustvertrag) from 1926 of 395,917 M. and losses in 1927 of 228,827 M. stands a gross profit (Gewinn) of 639,164 M. These totals conceal wide variations among the guilds: e.g., for the Berlin district the corresponding figures are 64,061 M., 24,940 M., and 186,913 M.; for Mittel-deutschland, 27,883 M., 20,669 M., and 120,560 M.; for Süd-deutschland, 163,531 M., 64,600 M., and 56,222 M. The investment value (Anlagewerte) represented by the Bauhütten at the end of 1927 was 12,898,612 M., an increase of 4,100,000 M. over 1926; but their own resources were still so limited as to make necessary resort to long-term loans from outside parties (langfristige fremde Mittel) of 10,268,313 M. This heavy interest burden it is the constant endeavor of the Verband to lessen.

9. A. Ellinger, *Bauhüttenbewegung und Gewerkschaften* (Berlin, 1927), pp. 9, 10.

"Haus der Gemeinwirtschaft." All are organs of the three central organizations of the workers, salaried persons and officials. The Dewog was formed in 1924 at the suggestion of Dr. Wagner.¹ Its purpose is to bind together the coöperative building interests on the consumers' side and to facilitate relations with the producers, especially with the Bauhütten. It has founded eleven daughter societies, which devote themselves to the financial problems of the Baugenossenschaften and to the representation of their interests before public and private bodies. Prominent among them is the "Gehag" (Gemeinnützige Heimstätten- Spar- und Bau-A.G.) of Berlin, which has built during the last three years 3595 dwellings, of which more than 1500 are accounted for by the settlements at Britz and Zehlendorf, carried out by the Deutsche Bauhütte. The V.s.B. is one of its shareholders.

The potentialities of the Arbeiterbank for the Bauhütten are obvious. At the 1922 congress of the "free" unions a Kapitalverwertungsgesellschaft was founded, but the bank itself did not come into existence until October, 1924, with a capital of 750,000 M.² Deposits, which on January 1, 1924, amounted to 200,000 M., were, on January 1, 1925, 9,500,000 M., and three years later, 78,000,000 M. In 1926 the bank created a special trustee and tax division which has proved useful to workers' organizations as adviser, accounting expert and representative before the tax authorities.

1. M. Wagner, *Neue Wege zum Kleinwohnungsbau*, Berlin, 1924.

2. *Die wirtschaftlichen Unternehmungen der Arbeiterbewegung*, A. D. G. B. (Berlin, 1928), pp. 67-78.

II

The ideas underlying the Bauhüttenbewegung are avowedly socialistic.³ There have been attempts to show that it is successor to the Klosterliche Bruderschaften and the Zünfte — that through it the industry resumes that socialized character which was lost under capitalism, especially after the introduction of Gewerbefreiheit in 1810.⁴ Dr. Wagner has asserted that high development of the art of building requires a communal organization which unites directors and craftsmen for common ends.⁵ But on the whole there is less medievalism here than in the discussions of the sponsors of the English building guilds.

The step that Dr. Wagner proposed in 1919 was "the shifting of individual enterprises from a capitalistic to a socialistic basis." He contrasted this process with that "Verstaatlichung" and "Kommunalisierung" which the Marxians who argued that the building industry was "unripe for socialization" had in mind. It was unnecessary for the industry to develop to the form of large-scale capitalism before an effort at socialization could succeed. A unit was "ripe" for the change when the head and hand workers desired it and when their economic productivity was at least equal to that of the capitalistic unit. *Complete* socialization was out of the question, but the *partial* socialization called for by

3. "Socialism is not a paradise that can be entered as soon as one has reached its borders. It is a strand that, inch by inch, must be wrested from beneath the capitalistic flood. This pioneer work is the function of the V.s.B.; unremitting labor for generations will be the price of success. The guilds are the storm-troops of Socialism. Theirs is the duty to produce economic proof for the soundness of the Socialist position." *Leitsätze zur Gründung des V.s.B.*

4. Alexander Garbai, *Die Bauhütten, ihre Vergangenheit und Zukunft*, Hamburg, 1928.

5. Wagner, *Die Sozialisierung der Baubetriebe* (Berlin, 1919), p. 13.

the formation of Bauhütten was logical and advantageous. In fact, the former could be reached only by means of the latter. The very features which render the industry unfit for direction by state or community — the changing job-sites, the specialization of trades, seasonal fluctuations, the lack of production for stock and the limited market — are such as can be met only by an individual concern of very adaptable character. It is the function of the guilds to hasten through competition the "ripening" process of capitalism and to direct it by working out the goal experimentally.

As to the question whether the building workers were psychologically fitted for the carrying out of an experiment so ambitious, Dr. Wagner denied that socialization requires a psychic rebirth. Vision, conscientiousness and economic insight are essential in managers, but among the workmen these qualities will appear only through association in a socialized concern. All that is required in the beginning is the common virtue of loyalty.⁶

It should be clear that the guild movement is no mere demand for "nationalization." Expressing appreciation of the past services of capitalism, it bases its claims upon the conviction that, under free competition, the guilds can prove their superiority to capitalistic concerns. It scorns mere "parliamentarismus." It is insistent upon the necessity for a greater degree of self-government in industry, both as an end in itself and as an aid to production. It is conventionally Marxian in the sense that it demands the appropriation of surplus value by organs responsible to the working class. As "social capital" this must serve the *Allgemeinheit* instead of the capitalist. Wage struggles may serve as a means for separate groups of workers to reach a higher standard, but so

6. *Die Sozialisierung der Baubetriebe*, pp. 41-43.

long as increases do not come from higher productivity of industry or from the profits of employers they signify nothing.⁷ Since the unions cannot themselves carry on production,⁸ since they cannot win a transforming influence upon capitalism from within and can base no hopes upon coöperation with the employer, the only possible course is to form economic units, outside the unions but under their control, to be infused with the communal spirit and to carry on production for social ends. Such units are effective agents of propaganda and strengthen the unions in their wage struggles, for they profit at the employer's expense in time of strike or lockout.

III

The structure of the guilds was devised with a view to capacity for competition and self-administration. It was planned to create a corporate unity with local cells meeting varied needs, controlled from below by the consumers and the local purveyors of capital, and watched over from above, through the V.s.B., by the capital-pro-

7. *Soziale Bauwirtschaft*, v, 18-19, p. 249.

8. It was contended in 1919 that the unions, as representatives of purely working-class interests, ought to have no connection with production, for fear of endangering their freedom in wage controversies. Dr. Wagner disagreed. His discussion of the "*Baugewerkschaft*," or building union of the future, is of interest by way of comparison with the writings of the English guild socialists on organization. This body would have little likeness to the union as it now exists. It would include all hand and head workers in the industry, would compel affiliation, and would unite the wage-regulating, exchange and welfare functions of the present "free" unions, on the one hand, with the contract and production-regulating functions of the present industrialists' associations, on the other. Certain important functions would also be delegated to it by public authority — insurance and industrial taxation, for example. It would also act as the agent in "wage" payment to the workers, and it would bear the responsibility for capital creation, for leadership in scientific technique, etc. An interesting feature in this scheme is the retention of a kind of profit mechanism. The obvious objections as to dangers of a syndicalistic sort that would arise with such an organization of producers Dr. Wagner answers in some detail. See *Die Sozialisierung der Baubetriebe*, pp. 25-31.

viding central bodies of the unions. At the same time the local unit was to be basically independent and responsible for its own results. In the guilds the rights and duties of socially organized labor and of socially accumulated capital were to be equalized. The immediate object was "to reduce the cost of building, satisfy the demand for dwellings and raise the level of technical and commercial practice."⁹

The organs of a *Bauhütte* are five: (1) a manager; (2) a workers' committee (*Betriebsvorstand*); (3) a general works assembly (*Betriebsversammlung*); (4) a supervisory council (*Aufsichtsrat*); (5) a shareholders' assembly (*Gesellschafterversammlung*).

These organs have each a special function with respect to the interests concerned. The manager's business is to maintain discipline and make the guild pay, under the general principles laid down for him by the V.s.B. and the *Aufsichtsrat*. The *Betriebsvorstand* focuses the labor interests of the membership, as the *Gesellschafterversammlung* represents those of capital. Both elect to the *Aufsichtsrat*, but labor holds here little more than a watching brief.

The manager is more independent than has been the case in productive societies of the past. He is appointed by the *Aufsichtsrat*, and is thus directly responsible to the shareholders. He is *not* responsible to the working membership of his guild, who have no power over him, save as they can bring their unions, if these have furnished capital, to exercise influence upon the *Aufsichtsrat*. His appointment requires the consent of the V.s.B., as a safeguard to competence, likewise his dismissal. He is the legal representative of the *Bauhütte*.¹ The V.s.B.

9. *Mustergesellschaftsvertrag*, section ii.

1. "The decisions of the Manager bind the guild even if they run counter to the articles of association, the by-laws or the decisions of the legal organs." Commentary on section vi of the *Mustergesellschaftsvertrag*.

has tried to give him as much freedom and responsibility as the manager of a private concern. It urges the guilds to see to it that the managers receive salaries as good as those given by private firms and also that they share in the profits. Thus the Bauhütte head has the duties of an ordinary manager, and in addition the responsibilities that are rooted in the avowed ideal of democratic leadership.

As the manager's functions arise from the desire to ensure competitive efficiency, so the functions of the Betriebsvorstand have their source in the ideal of participation in management. Its seven members, elected by the Betriebsversammlung, represent the working staff of the guild and also the unions to which these belong. It must advise and support the manager — tho it cannot interfere with him — and promote the introduction of scientific methods of work and of payment. The Betriebsversammlung includes all members of the guild. It serves as an organ of coöperation and information. The Aufsichtsrat is the control organ. Its members are elected, save for two worker representatives, by the shareholders. Its duties, in part legally established,² include supervision of administration and finances. It must approve contracts that exceed a certain magnitude and examine the conditions under which credit is accepted; it must consent to the setting up of branches and foster relationships with neighboring guilds. The Gesellschafterversammlung represents the shareholders, which are unions, or bodies of a public character, and not private persons. It expresses the active interest of the investing unions in the financial success and economic stability of the concern in which their funds are placed.

The finances of the guild are regulated in part by its

2. Article 246 of the German Commercial Code.

articles of association. It must set aside at least ten per cent of its annual net profit, until the amount of fifty per cent of its capital has been reached, as a fund for covering possible losses. A similar amount must go, before any dividend on capital has been declared, to the V.s.B. as a contribution to the "coöperative reserve fund" of that body.³ From what remains the *Gesellschafterversammlung* may declare a dividend on capital and make approved expenditures. The guild must, however, contribute to the V.s.B. for its current expenses — at present 1.2 per cent of the weekly pay roll.

The *Verband sozialer Baubetriebe* is made up, not of representatives of the guilds themselves, but of persons who represent the central unions and others of its own shareholders. Its organs are four: (1) the managers; (2) the *Aufsichtsrat*; (3) the *Beirat*; (4) the *Gesellschafterversammlung*. The managers are appointed by, and are responsible to, the *Aufsichtsrat*. They are commercial and scientific technicians and propagandists for the guild idea throughout the Reich. All the members of the control board, — the *Aufsichtsrat*, — with the single exception of the director of the *Arbeiterbank*, are elected by the *Gesellschafterversammlung*, which is the organ of final authority. The *Beirat* is a consultative and deliberative body made up of persons actively concerned in the movement, such as district inspectors of the V.s.B. and managers of local guilds. It binds together the *Verband* and its constituent units. The capital of the V.s.B. is used chiefly in making loans to local bodies. Ultimately the V.s.B. hopes through such control to secure a decisive influence in matters of technique and finance.

3. *Gesellschaftsvertrag*, section xiv. There is some diversity as to guild practice in the matter of finances, since not all the *Bauhütten* have accepted the *Mustergesellschaftsvertrag* proposed by the V.s.B. in 1925.

In 1925, uniform articles of association were drawn up, but not all the Bauhütten have yet assented to them for fear of "bureaucracy" and because of local pride. Objection is made especially to the contribution to the "coöperative reserve" of the V.s.B., which is described in the by-laws adopted for its use as a "danger-equalization fund."⁴ The movement, the V.s.B. argues, can hardly call itself socialized unless each guild is willing to make due provision for aid to others less fortunate than itself. Not that the hopelessly backward are to be supported by the progressive. The V.s.B. guarantees that no body incapable of entering into effective competition shall receive aid. The reserve fund is a mobile weapon to be used when employers or furnishers of materials center their attacks upon one guild, or when, through circumstances unforeseen, a guild faces temporary difficulties that are likely to be its undoing unless aid is to be had.

The relation of the guilds to the unions has been the subject of much discussion, for the latter are not as aware of this working-class creation as the V.s.B. desires. Local organizations, especially, have acted with supreme indifference to the welfare of the Bauhütten. The V.s.B. wishes from the unions, on the one hand, adequate financial support, and on the other, comprehension of its peculiar relation to the labor movement. Supported in large measure from the beginning by the building workers' federation, the V.s.B. has conducted an unrelenting but as yet unsuccessful campaign for financial aid from the non-building unions, so that the guilds may regard themselves as an economic arm of the working class. Thus far, however, not funds, but only vague expressions of good will, have been forth-

4. *Soziale Bauwirtschaft*, vii, 24, p. 413, lists in detail the purposes for which this fund is used.

coming. As regards conditions of labor and strikes, the V.s.B. desires the building unions to accord the guilds special treatment. Employment principles have been agreed upon. The Bauhütten are obligated to observe union standards and to better them so far as possible, but the degree of this betterment is to be strictly dependent upon the business condition of the guild. In no case are terms better than those prevailing in private employment to be granted to guild workmen if this would prejudice the guild's capacity for competition with private contractors. The V.s.B. has also insisted that the work of a Bauhütte must never, under any circumstances, be struck, since this is to exhibit the anomaly of unions striking against their own creation. This view has always been accepted by the Baugewerksbund. But there is seldom an extensive strike in which the V.s.B. has not reason to complain of the failure of local unions to differentiate between the guild and private builders. In some cases, men who during a strike remained at work for the guild have been locally blacklisted as strike-breakers. These vagaries are usually corrected as a result of expostulations from the central bodies of the unions concerned, but often not before the operations of the guild have been considerably retarded.

The relation of the guilds to the state is fixed by their legal form, that of a "Gesellschaft mit beschränkter Haftung." This form is held to be superior, for guild purposes, to that of a registered society (e.G.m.b.H.) or a share concern (A. G.).⁵ In the former, for example,

5. "There is in the existing social order no legal form fitted to the thought of the Bauhütte as a social Arbeitsgemeinschaft. . . . The G.m.b.H. form was chosen as a makeshift, being the most mobile of all Handelsgesellschaften." (Erläuterungen zum Mustergesellschaftsvertrag für Bauhütten, 1925.) Under the G.m.b.H. the Betriebsvorstand is unduly subordinated.

it is difficult to exclude private capital, and where this is present — as has been found in the case of the *Baugenossenschaften*—there is a tendency toward a narrowing of control and an ultimate transformation into a purely private concern. Moreover, a *Genossenschaft* is quite definitely an association aiming at the gain and advantage of its own members, while a *Bauhütte* recognizes only a secondary duty to those actively concerned in it; as a socialist organization its primary duty is to the commonweal. In addition, the right of participation in the administration of the concern is based, in the case of a *Bauhütte*, on the labor relation and not, as in the case of a *Genossenschaft*, on membership resting on capital provision.

In the legal descriptions of the purpose of a guild prior to 1924, the wording was phrased with a view to securing exemption from taxes as a social enterprise not engaged in business for private profit. Since, however, it was found almost impossible to come to terms with the tax authorities as to the proper scope of operation, and because of the bitter attacks of the private contractors on the guilds because of their "privileged" position, it was decided to throw the exemption aside and proceed as if the *Bauhütte* were an ordinary contracting organization. This course has proved very advantageous.

IV

In the activities of the V.s.B. are mirrored most clearly the purposes of the movement. It is the adviser of the guilds and their stern critic. It has founded no new organizations but has acquiesced in the demise of many. It investigates carefully the condition of any embarrassed member and refuses aid whenever misfortune is due to failure to follow guild principles. It

has pursued a consistent policy of limiting the numerical growth of the movement in order to concentrate upon inner health. Better a score of healthy guilds than a hundred shaky ones: such is its stated preference.

Of the aids to health recommended by the V.s.B. the most important are scientific management and accounting. Dr. Wagner maintained that the small builders are the curse of the industry and strove to convince the guilds that they must attain such a size as to make possible the most efficient methods.⁶ The V.s.B. has recommended amalgamations, and the formation of branches rather than of new guilds. It has endeavored to popularize the view that within the movement rationalization is not the enemy of the worker but an aid to the attainment of his desires. The guild organ, *Soziale Bauwirtschaft*, has since 1920 inculcated these ideas; it is a high-grade text of accounting and job practice.⁷ A series of booklets on financial and technical questions, the *Dreikellen-Bücher*, serves the same purpose. Since April, 1926, the V.s.B. has maintained a department of scientific management with a skilled engineer in charge, whose services are at the disposal of the

6. In 1926, 1.2 per cent of the 1,469,949 building workers in Germany were in the guilds. The average number of employees per private building concern was, in 1925, 6.53, while the average per guild was 92. *Soziale Bauwirtschaft*, vii, 24, p. 412.

By comparison with 1907 the number of building concerns in Germany had increased in 1925 by more than 10 per cent, while the number of men employed had decreased by .011 per cent. *Reichsarbeitsblatt*, vol. ii (Nichtamtl. Teil), Nr. 33 (1927), pp. 428-430.

7. "This up-to-date periodical may well take its place on the most discriminating reading table. It is noteworthy for its presswork, for its splendid illustrations, its statistics, tables, etc." Statement of the head of the Committee for Resisting Socialization of the Building Industry, before the Convention of the *Deutscher Wirtschaftsband für das Baugewerbe*, July 25, 1923.

Number 22 (vol. vii, 1927) consists of thirty-four pages descriptive of American building practice. Dr. Wagner and his associate, Herr Walther Astor, visited the United States in 1924 in order to study American methods at first hand.

guilds and whose demonstrations of effective building practice in one Bauhütte are a means of instruction to others. It is the aim of this division not only to raise the level of efficiency, but to establish a common basis so as to facilitate the exchange of information and make as meaningful as possible the regular reports as to employment, contracts, building-material prices and the like which the V.s.B. requires from each guild. In this connection standardized accounting is of the highest importance. A school for promising young guildsmen is conducted annually in Berlin, and apprenticeship relations are closely watched. There are also regular managerial conferences. Inspectors visit the Bauhütten and are a means of education as well as of discipline.

The success of these efforts of the V.s.B. has been considerable. Certain Bauhütten have been among the first building concerns in Germany to use modern forms of machinery for building and transport. They are at the forefront in their efforts to adapt American methods of winter work to German conditions. The success has been most marked in the cities; in the smaller places customs are not easily changed, nor is the psychic outlook of the workers.

When one turns from the Verband to the Bauhütten one is hard put to it to give an idea of their activities without launching into a sea of figures which defy condensation and which, at best, can portray but little of the movement because of the wide diversity among the guilds. At one end of the scale are stagnation and failure; at the other is success. A few facts concerning the guilds of Greater Berlin may suggest the potentialities of the movement.

In Berlin the guild framework has been more elaborated than elsewhere, so that there is hardly any step in building operations, dwelling or industrial, that can-

not be carried out by the guilds. First, there is Bauhütte Berlin, employing on the average 653 men in 1927, its business in that year amounting to more than 6,000,000 M., concerning itself chiefly with the erection of dwellings and of such structures as the six-story headquarters of the A.D.G.B., a similar building for the printers' union, a pavilion at the Moabit Hospital, and a factory for the Berlin Consumers' Coöperative. Closely associated with it is the Deutsche Bauhütte, founded in 1925 to carry out large-scale operations, especially settlement building, not only in Berlin but anywhere in the Reich, and also to aid guilds in any locality to undertake concrete work and excavations for which they themselves have not the necessary equipment. Besides its work at the settlements, Britz and Zehlendorf, for the "Gehag," it has built such structures as the mill and granary in Magdeburg and the malt-liquor factory in Mannheim for the Hamburg Wholesale Society, and the Schloss Bridge at Charlottenburg. During its first year its business turnover amounted to 3,400,000 M., and during the second year, to more than 7,000,000 M. From 1925 to 1926 it employed, on the average, 454 persons; during the next year it more than doubled this figure.⁸

The chief guilds of the auxiliary trades are: the Malerhütte Berlin (painting), the Heiz- und Wasseranlagen G.m.b.H. (plumbing), the Berliner Töpferhütte (tile work), the Steinmetzhütte (masonry) and the Gläserhütte (glass work). The oldest and most significant is the first named, which, like the Malereigesellschaft Hamburg, is one of the most highly developed and in-

8. It is pointed out, as evidence that there is no tendency toward bureaucratic management in such a guild, that the proportion of salaried persons to day laborers is very low — about 1:30 in 1926. This is due to concentration upon large operations. *Soziale Bauwirtschaft*, vii, 2, p. 25.

interesting organizations of painters in the world. It was founded in 1912; it employs about 400 men. It has made notable advances in the technique of painting by machinery. It possesses roomy, well-equipped shops and has a separate department, "Aumölack G.m.b.H.," for the painting of automobiles and furniture.

The experience of the English building guilds has been the subject of careful study by the German guildsmen, and their misfortunes have been the subject of many homilies to the local bodies. It was held by Dr. Wagner that the English organizations began under circumstances much too favorable for the forthcoming difficulties to be properly appreciated. Owing to the "basic-sum" form of contract sanctioned by the Ministry of Health and the assurance of weekly payments, and owing to the high degree of independence of the local authorities and the strength of the British consumers' organizations as sources of capital and credit, it was possible for the English guilds to begin operations on a much narrower capital basis than the German, and to accept undertakings of a much more extensive character. Difficulties that arose when this easily won aid was not forthcoming proved their undoing. Moreover, they were top-heavy with doctrinaire theory and with plans for the attainment of aims which, very desirable in themselves, ought properly to have been left to the future, when a firm foundation should have been laid. In the English guilds, so the Germans say, slackness of discipline, maladministration and inefficiency were the accompaniments of local autonomy. There was power without responsibility and continuous pressure toward direct control by the rank and file; the financial arrangements were casual, and it was assumed that if the workmen were assured security, the impulse to production would be forthcoming and rationalization would take care of itself.

On all these points the Germans claim to have improved upon the English model. Instead of repudiating "payment by result" the Germans embrace that principle. They do not require a Bauhütte to better working conditions or wages at the expense of competitive efficiency. They place responsibility for its own doings squarely upon the local guild — that is, upon its manager. The central body uses its power over capital to enforce its orders as to practice, but it does not accept responsibility for what is done with the capital when once given. It emphasizes its point of view that its aims are twofold, — ideal and practical, — and that success in the latter is a condition for the attainment of the former.

V

The difficulties of the Bauhütten have been of both external and internal origin. Since 1919 the private contractors have fought unceasingly to limit their growth. The tide of reaction after the Revolution destroyed one of the confident hopes of the guildsmen — that Bauhütten would be fostered by the government as a means of dealing with the housing problem and would receive aid in securing capital and credit. The attitude of the public authorities, under pressure from the Handwerkskammer, the Deutscher Wirtschaftsbund für das Baugewerbe and other such bodies has been, if not actually hostile, indifferent. The guilds have had to rely upon working-class organizations for their support. They have had to resist boycotts by price-rings of material dealers,⁹ black lists of the Innungen¹ and

9. *Soziale Bauwirtschaft*, v, 17-18, pp. 228-230.

1. For instance, an Innung in Saxony blacklisted three workers who left a private firm to work for the Dresden Bauhütte, declaring them to be ineligible for employment by any member of the Innung for a period of two years, and fixing a fine of 500 M. for any member who should give them work. *Soziale Bauwirtschaft*, vii, 1, p. 14.

organized pressure upon contract-givers, dealers and advertisers. They have had to withstand cut-throat competition from contractors using every device known to the trade to reduce quality and yet keep within the terms of the contract. There have been some cases of clear-cut favoritism toward private builders on the part of town authorities. In other cases black reaction showed its face, as when a Bavarian city refused to give a schoolhouse contract to a guild, the lowest bidder, because it was held unfitting that Catholic sisters should give religious instruction in a building erected by a socialistic Bauhütte!²

Another serious difficulty has been that of securing contracts from the Baugenossenschaften. One would suppose that building societies of workmen and salaried persons would be among the first to give contracts to a coöperative organization of workers. But such has not been the case. From district after district has come the complaint that the Baugenossenschaften have not even asked the Bauhütte to bid. In many of these organizations, especially the older ones, there is a deep-seated conservatism. Their primary concern is to avoid losing money and, being eminently respectable, they lean toward the older institution, the private builder, which they know, rather than toward the guild, which is new and therefore suspect. It is no uncommon thing for a Genossenschaft made up in the main of union men to give contracts to non-union builders.

It would be unfair, however, to give the impression that the Baugenossenschaften everywhere take this attitude. In the north, where the Bauhütten, when they are present, are usually the biggest building concerns in the locality, the building societies are important customers. In Baden and Bavaria the relationship is less

2. Soziale Bauwirtschaft, vii, 18-19, p. 273; Report of P. Jordan.

happy. But with the growth of the "Dewog" and its daughter societies the proportion of guild contracts from such bodies increases.

The internal causes of guild difficulty arise from the untried character of the organization. They are in part technical and in part financial, with the former predominating.³ Nevertheless, the latter gives trouble enough. Many of the guilds operate on a narrow capital basis; during the inflation period it was possible with ridiculously small means to call undertakings into life. In the district Central Germany at the end of 1926, of the nineteen affiliated guilds two had capital resources of more than 100,000 M., five had from 27,000 to 32,000 M., five had from 10,000 to 20,000 M., and seven had less than 10,000 M.; of the last, three had less than 5000 M. In the district Rhineland-Westphalia, of the thirteen guilds affiliated in July, 1927, two had more than 100,000 M., capital, four had between 20,000 and 50,000 M., one had 12,000 M., five had between 5000 and 10,000 M., and one had 3100 M.⁴ Thus many guilds are overcautious, and so stagnate; others extend their operations injudiciously.

The difficulties in guild technique have to do with the relations between management and membership. In the first place, it is not easy to find properly trained managers who have also a talent for democratic leadership, and still harder to keep them. Partly because it is difficult to get the guild rank and file to agree to pay fitting managerial salaries, good managers are lost by the Bauhütten to private employers. There is a high turnover of technical men and accountants; Bauhütte Stuttgart, for example, has had eleven managers since it came into existence. In 1927 the chief accountant was

3. Walther Astor, in *Soziale Bauwirtschaft*, vii, 24, p. 417.

4. *Soziale Bauwirtschaft*, vii, 18-19, pp. 276, 282: Reports of K. Herrmann and K. Obermeyer.

changed in nearly one half of the guilds.⁵ In some cases difficulties between the technical and commercial managers have arisen; in others there is reluctance to agree to that exchange of information which the V.s.B. requires.

Similar trouble has been experienced with the membership. Every guild strives to secure for itself the best-trained craftsmen available. Yet "of every ten men trained, — as is usual with those who come to work for the Bauhütte, — by small masters, only one, or at best, two, can be said to be fitted for quality work of the sort we aim at. The rest are bunglers and remain so."⁶ Hence the emphasis put by the guilds upon their apprenticeship systems. Aside from technical proficiency, it is not easy to secure the necessary point of view. Sometimes the salaried men, with their "middle-class" outlook, and the workers as well, see in the guild only a source of personal advantage. They ask for unreasonable wages and insist that unnecessary men be kept on the rolls, or that officials be kept in posts for which they are unfitted. In some districts there is opposition to the adoption of scientific methods. The members of a Bavarian guild objected to the presence of a concrete-mixing machine as "capitalistic" and did their best, in the dead of night, to destroy it. Guilds cause the central office untold inconvenience by refusing to adopt standardized bookkeeping, or to send proper monthly reports. The payment of the contributions is also a constant bone of contention.

VI

The time is as yet too short to come to any satisfactory conclusion as to the significance of the Bauhüttenbewegung, especially since the period prior to 1924 offers so few reliable data. One can say only that, up

5. *Soziale Bauwirtschaft*, vii, 23, p. 403.

6. Herr Stein, manager Malerhütte Berlin.

to the present, noteworthy things have been accomplished. As an experiment the movement may serve to indicate what the hopes so persistently pinned to producers' coöperation are worth. In this connection the hardheadedness of the leaders is notable. Their advocacy rests squarely upon the assumption that the guilds are economically superior to private concerns. They do not descend to the argument that retardation of production is acceptable as the price of a greater freedom for the worker. Self-administration and increase in production must go hand in hand; if the guilds are not the means to achieve this, they must give way to a better.

As regards practical accomplishments, the 50,000 well-built homes that have been erected stand first upon the record. The question whether the guilds have brought down prices is not easy to answer. It was one of the early aims of the movement to force better methods upon the contractors, to prevent the formation of cartels and syndicates and so to lower prices. In this the guilds claim to have been successful. However that may be, it cannot be denied that they did give a definite impulse in this direction and that in many localities they were the agency that maintained the tendency once it had been established.⁷ The employers themselves have testified to the effectiveness of guild competition; in fact, they established a special agency to combat this socialist menace.⁸

It is sometimes objected that the salutary lowering of prices has ceased. The guildsmen reply that a continuous process of this kind was not their aim. They

7. The *Frankfurter Zeitung*, Nos. 949, 952 (December 20, 23, 1921) contains an affirmation of this view from a non-union source.

8. The "Abwehrstelle" of the *Deutscher Wirtschaftsbund für das Baugewerbe*. In a speech by the leader of this committee before the 1923 Convention of the *Bund* the conviction was expressed of the dangers to *Privatwirtschaft* from the activities of the *Bauhütten*. The speech was reprinted by the *V.s.B.* as a propaganda leaflet under the title, *Die Bauhüttenbewegung im Urteil ihrer Gegner*.

believe that it is better, a "fair" level having been reached, to proceed on a price basis comparable to that of the private contractor, and thus secure an opportunity, through good management, to make savings and increase capital. The community, it is argued, is better served by increasing the amount of capital available to the Bauhütten than by bringing prices to a still lower level.

It is a common contention that conditions after the Revolution were such that the guilds might well have been temporarily successful without attaining any very considerable efficiency. This may have been true, and should still be borne in mind, for there are large economies which the German industry as a whole has yet to adopt. There is, however, no doubt but that guild practice marked an advance on the technical inertia of the home-builders at the end of the war. Whether this superiority can be maintained is an open question. There are benevolent onlookers who believe that the guilds had their chief value as a stimulus to private industry and that, properly managed, the private concerns can drive the Bauhütten off the field.

That the future of the movement will turn on whether the guilds have secured discipline under effective management and on whether they have made good their claim to be the means of unloosing new energies is certain. Are the stimuli to good workmanship and skilled leadership more powerful in a guild than under a private contractor? Are the guilds able to meet the competition, on the one hand, of the large, highly specialized business, covering the Reich in its operations, and, on the other hand, that of the small builder whose economies are so largely due to low overhead? What is to be the situation of the Bauhütten after the period of abnormal housing shortage has been passed? Can they win their way into the field of industrial construc-

tion, as they desire? It would be folly to expect private concerns in other lines to give contracts to them when they have declared war against private concerns in the building industry. Only a phenomenal economic superiority could bring that about. Hence it may be that the future of the guild movement awaits the advance of "socialization" in other industries, so that there will be no necessity of securing contracts from private firms. In this case the future of the building guilds is that of the socialization proposals in general.

The Bauhütten are not likely, so long as they survive, to be content to confine themselves to housebuilding, even though this should prove to be a field in which they have persistent advantages over the ordinary contractor. The achievements of the Berlin guilds in industrial construction are a beacon to the others, especially in the democratic and progressive north and west. The V.s.B. is very likely to secure control over more capital through the extension of support from the unions and the communities; this will be a condition of further development. Moreover, the guild movement is bound up with the simultaneous advance of the great "gemeinnützig" organizations, the Dewog and its subsidiaries, and with that of the Arbeiterbank. With such support the V.s.B. will be able to enforce its point of view, by precept and by the example of successful guilds, strategically located, and to combat local separatism and that of the far-lying regions. Under such conditions, as members of a complex of allied and sympathetic coöperative organizations, it will remain to be seen whether the stimulus supplied by the V.s.B. at the center will be responded to at the periphery in the form of increase in individual production and release of creative power.

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SOMBART'S HOCHKAPITALISMUS¹

Der moderne Kapitalismus made its first appearance in 1902. The work then consisted of two stout volumes, some 1350 pages, tracing the rise of capitalism from its tentative beginnings in the Middle Ages to its full development in the nineteenth century. At once, this vigorous study of economic behavior excited keen interest. The wide scope of the investigation, the full documentation, the constructive power revealed in organizing a vast mass of materials elicited admiration. Werner Sombart seemed to recapture that blend of history and theory which had lent intellectual distinction to Marx's *Kapital* — that blend which Schmoller had striven after with less success. But in detail the work

1. Der moderne Kapitalismus. Dritter Band. Das Wirtschaftsleben im Zeitalter des Hochkapitalismus. One volume bound as two; large 8vo; pp. xxii, 1064. Munich and Leipzig. Dunker und Humblot, 1927. 29 marks in paper covers; 34 marks bound.

All three volumes of *Der moderne Kapitalismus* (bound as six), in their several latest editions, may now be had from the publishers in uniform style. As the work now stands, the titles may be rendered thus: *Modern Capitalism* — An historical and systematic exposition of Europe's economic life from its beginning to the present day.

Vol. I. Pre-Capitalism.

Part i. Introduction, The Pre-capitalistic Economy. Pp. xxii + 462.

Part ii. The Historical Foundations of Modern Capitalism. Pp. viii + 463-919.

Vol. II. Early Capitalism.

Parts i and ii. Economic Life of Europe in the Age of Early Capitalism, chiefly the sixteenth, seventeenth and eighteenth Centuries. Pp. x + x + 1229.

Vol. III. High Capitalism.

Part i. Foundations and Structure. Pp. xxii + 514.

Part ii. Economic Processes of High Capitalism. Economic Organization as a Whole. Pp. x + 515-1064.

was uneven. A succession of critics cast doubt upon several of the writer's fondest contentions. Fortunately for the rest of us, Sombart was driven by the demoniac energy of one of those capitalist enterprisers at whose irrational self-exploitation he marvels. Spurred on by praise and blame, he set himself to re-work the whole field more intensively.

In 1916 the first volume of the expanded treatise came out in two parts. A second volume, also in two parts, followed in 1917. Ten years later "the third and provisionally the last" volume appeared — another set of twins.

Closely related to various parts of this imposing structure are Sombart's other books — *War and Capitalism*, *Luxury and Capitalism*, *The Jews and Economic Life*, *The Future of the Jews*, *The Bourgeois*, *Traders and Heroes*, *Proletarian Socialism*, *The Nineteenth Century in Germany*. Truly a prodigious pile to come from one pen!

The quality of this output is as intriguing as its quantity is impressive. Werner Sombart puts his own stamp upon everything he writes. From its metaphysical foundations to its literary finish, his work is highly individualized. He has brought to light buried treasures of daily life in the Middle Ages. He has found new meanings in familiar materials. He has challenged conclusions which pass muster in our economic histories and concepts accepted in our theoretical treatises. In view of the seeming collapse of the German "historical school," his method of work has an interest approaching the dramatic. Every serious student of economics should acquaint himself with Sombart's contribution.

Yet that contribution seems not to be well known outside the writer's land. No one has ventured to translate the three thousand pages of *Der moderne Kapitalismus*

into English. The books which have been translated are less impressive than the *magnum opus*. And German is a glass through which most English-speaking economists see but darkly. The competent scholar who presents us with a full-length sketch of Sombart's work and its bearing upon other approaches to economics will merit our thanks. Meanwhile, the best service a reviewer of the volume on Hochkapitalismus can render is to tell what the book contains.

I

The age of high capitalism began in the 1760's and ended in August, 1914. A series of great inventions, among which the coke process of smelting iron was decisive, ushered in the age. Signs of its approaching end appeared before 1914 — the intrusion of normative ideas into business practice, the disestablishment of profit-seeking as the sole guide of economic activity, declining flexibility, the steadier course of evolution, the substitution of agreements for free competition, the standardizing of industrial organization. Capitalism was growing old — its spirit was suffering change. The war made this change manifest.

To Sombart, capitalism is an "historical individual," "a peculiar episode in the history of mankind." At bottom, money making has no relation with the economic life that matters. Yet because a handful of men were smitten with a passion to make money, hundreds of millions of human beings have been called into existence, and human culture has been made over. The revolutionary changes spread at extraordinary speed from England, their cultural center, over western Europe and eastern North America. From these strongholds high capitalism turned to its uses the rest of the earth.

It is an idea which has wrought these wonders. But — and here Sombart's metaphysics gets in his way — idea and actuality cannot be causally related. How comes it, then, that the actual world has been stamped with the pattern of the capitalist idea? Sombart surmounts this artificial difficulty by a most characteristic argument. (1) We must accept certain fundamental facts of economic evolution as historical accidents. In recent times the fundamental economic facts happened to fit well with the premises of capitalism — that is the basic reason why evolution followed the line marked out by the capitalistic idea. The facts in question are three: a new type of man assumed the direction of economic activities; a new type of state developed; a new technique came to dominate industry. The business enterpriser, the modern state, the machine process are "the foundations" upon which high capitalism is built. (2) The conditions under which high capitalism was erected upon these foundations might have been such as to hinder the work. What capitalism needed for full development was capital, labor, markets. These needs were met in optimal fashion. Again accident played a rôle, as in the discovery of great gold deposits, the rapid increase of population, the existence of virgin resources awaiting exploitation. But other favorable factors — increased productivity, the credit system, the "mobilizing of commodities" — were evoked by the primary forces themselves. (3) The capitalistic process, as it unfolded, forced developments in the direction which suited its spirit, by rationalizing economic activity.

This curious argument in the preface controls the whole discussion of High Capitalism. Book I, *The Foundations*, deals successively with the capitalist enterpriser, the modern state, and modern technique. Book II, *The Building*, deals with capital, labor and

markets. Book III, *The Process*, deals with the rationalizing of wants, of marketing, of production. There follows a brief section upon non-capitalistic forms of organization which have lasted over from an earlier age, or which appear as harbingers of an age to come. The last chapter of all dips into the future. Whatever doubts one may feel about the professed origin of this scheme of organization, the outline is neat.

II

Sombart assigns the leading rôle in the drama of high capitalism to the business organizer. It is he and he alone who furnishes the driving power. Whether primarily a captain of industry, a merchant, a financier, the business leader assigns all minor functions to others. He can buy routine intelligence and install it in his enterprise like a master clock. His operations are not bound by the limits of his own property, for he uses mainly the property of others. He is not hampered like his predecessors by regard for tradition or regard for religion. Desire of gain, a will to power, a drive toward activity inspire his restlessness. These dynamic impulses are disciplined by a sublime economic rationality. Hand in hand, passion and reason have produced an unprecedented outburst of human efficiency, which is blind to but one thing — the end of all this teeming activity.

The modern state represents the union of two incompatible principles — liberalism and the policy of power. Domestic policy is liberal in the sense that economic affairs are left mainly to individual initiative. Foreign policy also was affected by the liberal ideology for a time, particularly in England. But the free-trade movement never cut very deep, and the last quarter of the nineteenth century brought a reaction toward "Realpolitik," of which Bismarck was the prophet. Neo-

mercantilism now dominates the field, with its high tariffs, militarism and imperialism.

What Sombart has to say about the third corner-stone of high capital may be reported a bit more fully, to give at least one example of his characteristic mode of elaboration.

Industrial technique is twin sister of natural science. Scientific discoveries give rise to inventions; inventions often lead to discoveries; frequently discoveries are inventions. Hence the stages in technical progress derive from the stages of scientific advance. The theoretical work of Galileo and Newton, of Euler, Maclaurin and Lagrange, of Poinso^t and Robert Mayer laid the basis for three successive stages of applied mechanics. In chemistry, Lavoisier and Priestley laid the foundations; Wöhler and Liebig pushed into the organic field; Kekulé and van t'Hoff founded stereochemistry. Similarly in the electric field: Farady and Ampère established the basic conceptions; Gauss and Weber developed the theory of conduction, Maxwell and Herz the theory of electrical waves. Our dynamos, telegraphs and radios grew out of these successive achievements. Cosmical theory in the age of early capitalism was content with the traditional view of a craftsman God who made the world in six days, pronounced it good, and rested on the seventh day. Modern science conceives the universe as a system of relationships among electrical charges. Industrial technique likewise has moved out of the craftsman stage, trying (as Andrew Ure said a century ago) "to substitute mechanical science for hand skill." Science thinks the world a physico-chemical mechanism; industrial technique makes a world on this scientific model. Trade secrets jealously guarded give place to scientific publications; rules based upon experience give place to scientific laws which are demon-

strated; so far as possible all operations are transferred from the variable personal factor to automatic mechanisms.

Granted all this, the crucial question remains: How can we explain the extraordinary number of inventions made in our epoch? Sombart answers, "By observing both the objective and the subjective conditions which have stimulated invention." I shall save space by listing these conditions in quasi-tabular form.

Objective Conditions

1. The scientific basis of modern technique.
 - (a) The objective recording of technical knowledge guarantees its preservation and facilitates its spread.
 - (b) The systematizing of technical knowledge binds one problem to another, so that one invention leads to other inventions.
 - (c) The mathematical form in which technical knowledge is cast tends to produce a quasi-automatic extension of a solution found for one problem to other problems.
2. The favorable reception accorded to inventions.
 - (a) The hostility toward inventors and their works, violent in the Middle Ages, still strong in the early capitalistic era, has turned into a spirit of admiring welcome.
 - (b) The striving after material progress, so characteristic of our time, creates an eager demand for inventions.
 - (c) Capitalism favors inventions for the profits hoped from them.
3. The active stimulation of inventions in three ways.
 - (a) Technical schools with research laboratories.
 - (b) Research bureaus set up by great corporations.
 - (c) The subvention of inventing by
 - A paying for patents,
 - B granting subsidies,
 - C offering prizes.

Subjective Conditions

In former times the finer spirits paid scant attention to vulgar matters of technique. As for the hewers of wood and the drawers of water, they did things as they had been taught. Not until the dawn of modern times did an interest in invention appear. At first this interest was irrational, romantic, baroque. Gradually it grew into the many-sided interest of our time.

In the epoch of high capitalism we have three types of inventors:

- (a) The genius, like Bessemer or Solvay, who invents new processes despite his lack of technical training. Such cases are exceptional.
- (b) The lay inventor, who happens upon one, perhaps upon several, ingenious contrivances. But more important, and peculiar to our age, is
- (c) The professional inventor, who may be a man working on his own account like Edison, but is usually a highly trained employee in some research laboratory.

The motives which stimulate modern invention may be classified as follows:

1. Pleasure in inventing.
2. Interest in the results of an invention arising from philanthropy, enthusiasm for progress, military considerations, ambition, and so on.
3. Desire for gain, which doubtless remains the most powerful incentive.

Finally, we should ask: What inventions are made? The answer is: The business organizer decides whether an invention is "good," that is, profitable. Only those inventions which promise a profit are put to use. Thus invention in the era of high capitalism serves business, and business alone. Other interests of mankind are not cared for, save in so far as service is good business.

Sombart's volumes run a thousand pages apiece because nearly every topic is drawn out after this fashion. I have condensed on the scale of one to twelve. Despite the author's gusto, despite his gift for phrase-making, the reader's interest flags as he descends the ladder from numerals to Roman and then to Greek letters. But ever and again an arresting idea springs from its formal setting and grips his attention. From this point forward I shall note only the intriguing parts.

One such is Sombart's favorite idea that modern technique seeks emancipation from the hobbles of living nature. So far as possible, it chooses inorganic materials in place of organic — metals replace wood, coal-tar dyes replace vegetable dyes, mineral lubricants replace animal oils, and so on. Similarly with prime movers: man power and animal power are replaced by steam,

electricity and the internal combustion engine. Working processes undergo a like transformation. For the ordinary processes of nature, modern technique substitutes artfully arranged chemical or mechanical processes, designed to convert standardized materials into standardized products, through a continuous series of operations on a quantity basis. And of course human labor is one of the erratic natural agents of which the technician is most eager to be rid.

III

Book II, as said above, deals with capital, labor, and markets.

Sombart defines capital as "those sums of exchange value which serve as the material basis for a capitalist enterprise." Capital comes into existence whenever money is used to establish or enlarge a business. The most conspicuous characteristic of our era is that it presented optimal conditions for the growth of capital. Large "savings" were made possible by the increase in production, by the exceedingly uneven distribution of wealth, and by the prevalent interest in accumulating. There were also strong inducements to invest these accumulations in business, thus converting potential into actual capital. Credit has contributed enormously to the growth of capital by the facilities it provides for making business use of scattered savings, by enabling the able business man to expand his operations far beyond the limits of his own fortune, by bringing "into commerce the present value of future profits," and by giving the whole business structure an extraordinary combination of intricate organization and flexibility.

Capital goods consist of the commodities in which capital "clothes itself" for a time. The problem concerning their origins is the problem of production. There

are three ways in which production can be heightened, and high capitalism has made use of all three — more effective use of given resources, exploitation of new areas, drawing upon the past accumulations of nature. Sombart dwells at length upon the many methods of making labor more effective, and upon the spread of capitalist exploitation into the crannies of western Europe, thence eastward across Russia into Asia, westward across the Atlantic to the Americas, and southward to Australia and Africa. Most of all he emphasizes the extent to which high capitalism has flourished by robbing the soil, felling the forests, and drawing lavishly upon irreplaceable mineral resources. The greater part of capital goods, at least in manufactures and transportation, represents not annual income but the consumption of man's natural patrimony.

Passing from capital to labor, Sombart attacks a similar problem: Whence came the labor power which high capitalism needed to handle the enormous flow of capital goods? Several sources were drawn upon. Capitalists stole savages and worked them as slaves. But that proved a dwindling resource. Far more important was the dissolution of the old rural and craft organizations in which and by which a large part of the European populations still lived in the age of early capitalism. These organizations could not withstand the direct competition of rationalized technique and its influence upon legislation and administration. Deprived of their old methods of livelihood, a large part of the peasantry and the handicraftsmen had to seek capitalist employment. But the richest source of labor power was the spontaneous growth in population. Never had the world known such an increase as appeared in the nineteenth century. The increase came not from a rise in birth rates, but from a fall in death rates. Hygiene and medicine made

remarkable progress, but the chief credit must be assigned to the more abundant means of livelihood. In the last resort, capitalism itself produced the labor power it needed by filling the bellies of the multitude which had hungered.

The production of abundant labor power, however, merely provided a raw material, which high capitalism had to adapt to its exacting needs.

First, population had to be shifted about from the places where it was produced to the places where goods were to be handled. The dissolution of the old forms of organization and the growth of numbers left the rural districts and small towns with far more hands than could be used there. The redistribution of these local surpluses produced the greatest migrations of history. By the millions, families were shifted from country to city, from one country and from one continent to another. And beside these quasi-permanent shiftings, capitalism established a seasonal flow, which carried laborers hundreds or thousands of miles from winter tasks to summer tasks and back again.

Second, the workers had to be adapted to the technical requirements of capitalism. Sombart recalls the difficulties experienced by the early factory managers in teaching refractory human beings, accustomed to irregular paroxysms of labor, the sustained regularity of effort demanded by machine tending — difficulties half forgotten in Europe, but experienced afresh in each backward land invaded by the machine process. To induce steady habits, the workers had further to be inspired with the desire to get on in the world after the capitalist ideal. "It is one of the strangest stupidities of current theory to represent the desire for gain as an in-born trait of human nature." At first it seemed necessary to keep wages down to a minimum, so that men

must work steadily or go hungry. But when some measure of steadiness was attained, it appeared that intense application could not be sustained on minimum wages. So employers adopted various schemes intended to stimulate effort. While Sombart questions Max Weber's thesis that puritanism had a large share in forming the capitalist spirit of business men, he thinks it did help to discipline workers in the new way of life. But more important in his eyes was the direct influence of the new environment. As capitalism produced its own labor force, so it shaped its products after its own image. With characteristic rationality, it facilitated the task of adapting the workers to its needs by adapting its needs to the workers. Splitting up its processes into numberless successive steps, it produced mass jobs of the simplest which required scarcely any training, and confined its demand for intelligence within limits which could be met. Recently it has begun to grade its human material, seeking to put every man into a job which suits his peculiar capacities. In this way, capitalism can get the most out of its employees, and provide the most for them.

Third, capitalism had to adjust labor to its economic needs — that is, to establish such a relationship between the total value of the product and total wage disbursements as meets its primary requirement of profits. The only real "law" of wages is the law of supply and demand. As shown above, capitalism produced an enormous supply of labor in Europe; it made use of children, women, and the rural surplus; at need it drew also upon the population of backward lands. On the other hand, its demand for labor mounted ever higher, threatening to raise the price of labor to levels which would encroach upon profits. But high capitalism provided safeguards against this danger. At recurrent intervals it reduced its demand for labor well below the current supply. The

existence of the famous "reserve army" is an indisputable fact. Changes in technique kept throwing men out of employment, and the quasi-rhythmical fluctuations of capitalist activity reduced the demand whenever profit margins shrank. There remained as final safeguard increases of physical output. Hence, tho earnings per capita rose in the nineteenth century, the cost of labor per unit of product declined. The net resultant of the complicated forces is best shown by the American Census of Manufactures. Labor's share in the product is reported directly. One can approximate capital's share by subtracting costs of materials plus wage disbursements from the value of products. Thus analyzed, the American figures show an average annual rise of 2.52 per cent in wages during the 65 years from 1850 to 1915. But profits rose faster still — 3.08 per cent per annum. Others may doubt this use of the census data; it convinces Sombart that high capitalism has succeeded in adapting labor to its needs economically, as well as technically.

It remains to show how the third requirement of high capitalism — markets — has been met. Who bought the products turned out in such masses?

Two sources of demand must be distinguished — the exogenous and the endogenous — the demand from outside the capitalist system proper, and from inside the system.

Of the two, the exogenous demand is the older. Nascent capitalism sold its products mainly to people who were neither business enterprisers nor employees of business enterprises. And this demand has continued large. It includes landed proprietors, the world of high finance (brokers and speculators), governments of all grades, the population of the Balkan States, Russia, Asia, Africa and Latin America. In this class, too, Sombart

reckons the agricultural and handicraft workers, whose practice of producing for themselves capitalism has broken down in large measure. Finally, he mentions the monetary demand arising from the production of gold, the issue of uncovered paper currency, and credits.

Endogenous demand embraces both the buying of consumers' goods by capitalist enterprisers and their employees, and the buying of industrial equipment by business concerns. High capitalism can really thrive on itself: as the classical economists claimed, each unit of its output constitutes a demand for other goods. It is forever creating a demand for its own products by altering its methods. Machines, factories, railways, ships, mines, electric installations — it needs such things without number. And its own personnel are fed, clothed, lodged, amused, more and more by what it makes and transports with its varied equipment. British, French and American statistics show that real wages have doubled within the period of high capitalism. This finding confirms and is confirmed by an estimate that the productivity of labor has about doubled within the same time. If profits have grown faster still, as seems to be true, it must be that capitalists have got the better of their exchanges with the non-capitalist classes and countries.

IV

Book III, *The Process*, is as long as Books I and II put together. It deals with the activities characteristic of high capitalism. The end of these activities is to gain profits. The means employed to this end are contracts in terms of money concerning services to be rendered and received. Paradoxically, this scheme of organization, which does not aim at satisfying wants, nevertheless does provide for human wants incomparably better

on the whole than any other scheme which men have tried. The reconciliation between making money and satisfying wants is effected by market prices. A price shows when a need is felt; it also shows the chance of profit and determines the capitalist enterpriser to make his contribution to the satisfying of needs. Hence, there are three "elements" in the capitalistic process: the need, the market, the business enterprise. To these elements correspond three sets of activities: consumption, circulation, and production.

After expounding abstractly the pure concepts of needs, markets and industry, Sombart turns to the types of motion characteristic of high capitalism. Competition is one type. It is treated with pregnant brevity.

Second come "conjunctures." Whereas crises occurred frequently in pre-capitalistic and early-capitalistic times, business booms are peculiar to the later period. Sombart still holds to the hypothesis he advanced in 1903 — the decisive factor in bringing on a crisis is the disproportionate increase during the boom in the output of inorganic products. Agriculture and the industries which fabricate organic materials have but a small share in expansion, and so disturb the balance of the business world.

Third, high capitalism is characterized by a tendency toward increasing uniformity of its phenomena. It drills us all in a school which inculcates its own peculiar rationality. Absorbing the spirit of our institutions and coerced by the conditions these institutions create, we devote ourselves ever more uniformly to the one great aim of money making. In this preoccupation we make ever more rational use of ever more standardized means. We live in an economic environment of money prices and our survival depends upon our capacity to adjust

our behavior to its demands. So we get rationalized and standardized ourselves — the farmer and the handicraftsman less than the machine tender and the business man, but all of us in increasing degree.

The business enterprise itself is becoming more and more rationalized and standardized in form and functioning. While individual ventures still constitute the majority of enterprises in every country, corporate organizations do most of the business. A network of varied relationships binds these legally separate entities to each other, making it possible to organize large, intricate and rapidly shifting undertakings in a fashion which combines close supervision in detail with centralized planning. On the industrial side, there has been achieved a remarkably varied adaptation of organization to the conditions of money making presented by different trades — specialization here, combination there, each in a bewildering array of forms, and each susceptible of union with the other. With the important exception of agriculture, almost every branch of trade shows a tendency toward increase in the size of the business enterprise. In a few fields, concentration has actually reduced the number of independent enterprises. More commonly, concentration has brought merely an increase in the share of business obtained by the giants. Certainly there has occurred no such sweeping concentration of business control as Karl Marx forecast. As for the internal organization of business enterprises, Sombart points out three closely related developments. Business administration becomes more scientific; it becomes more objective and less personal; it becomes more intensive, speeding up the whole set of operations, utilizing more perfectly the materials, equipment and personnel at its disposal.

V

Having concluded his survey of capitalism "from Charlemagne to Stinnes or Pierpont Morgan," Sombart takes a bird's-eye view of modern economic organization as a whole.

At its apogee just before the war, capitalism did not employ more than a quarter or a third of the breadwinners in western and central Europe. If this proportion rose to two fifths in the United States, it sank to a tenth in Russia. Doubtless capitalism's share in the output is larger than its share in the labor force; yet two older forms of organization dispute its primacy even on this basis.

Handicraft shops with less than six employees provided a living for half of all German workers outside of agriculture, according to the occupational census of 1907. Similar data are not available for all branches of trade in other countries; but common observation, eked out by such figures as can be had, shows that in all capitalistic countries many types of work are still carried on prevailingly or exclusively by small personal enterprises, which retain much of the old-time handicraft spirit.

By far the most important form of economic organization in the world, however, is small-scale agriculture. Europe's peasantry did not decline during the nineteenth century. When the war broke out, there must have been 27 or 28 million peasant enterprises from Poland westward, and 22 million more in Russia. To this number must be added 6 or 7 million farms in North America. Altogether, perhaps two thirds of the world's population lives in this non-capitalistic fashion.

Coöperative enterprises have made considerable progress in retail trade, wholesale trade, manufacturing,

agriculture and finance — tho they are far from rivalling any of the older forms of organization in extent of operations. Their importance lies rather in their promise for the future. The like can be said about communal enterprises. Governments, national and local, already do a larger volume of economic work than is commonly realized, and this share promises to grow.

VI

One of the most interesting chapters in the three volumes of *Modern Capitalism* is the last chapter of all, wherein Sombart dips discreetly into the future.

Certain expectations he is sure will not be realized. No single form of economic organization will prevail to the exclusion of all other forms. For an indefinite time to come capitalism, coöperation, communal enterprises, individuals in business by themselves, handicraft shops, and small-scale agriculture will continue operating side by side. Also everyone who anticipates a violent change in economic organization is mistaken. The recent adventures of Soviet Russia should convince the most skeptical that the past will live on in the future. Nor can mankind turn back to the simpler life of pre-capitalistic days. The hopes, or fears, that modern technique will end its career by exhausting the natural resources which it is exploiting so recklessly, overlook one seemingly inexhaustible resource — the inventive ingenuity of that technique itself.

On the positive side, Sombart expects capitalism to endure indefinitely, but to continue changing in the future as it has changed in the past. It will gradually lose its position as the dominating form of economic organization; it will suffer an increasing measure of public control; it will pursue a steadier course, as befits its advancing years. The forms of organization which

will gain ground at the cost of capitalism will be those which represent more conscious planning — planning aimed not at making money, but at satisfying needs. We shall find that there is little difference between stabilized and regulated capitalism on the one side, and a technically developed, rationalized socialism on the other. But this highly organized form of organization will not gather all workers into its fold. The small craftsman and the shopkeeper will continue to exist, perhaps to flourish. The peasant and his American counterpart, the farmer, will grow stronger; for agriculture's share in satisfying needs will mount with the growth of the world's population. Doubtless changes will come over the cultivators — they will acquire a more scientific technique and more business-like habits; but they will not be enslaved by the spirit of capitalism.

Not, says Sombart in conclusion, so artistic a sketch of the future as Marx drew. But we must resign ourselves to the facts of science, and expect the world to remain a jumble of the old, the changing, and the new.

VII

If economic theory aspires to explain economic behavior, then Sombart's *High Capitalism* is a theoretical contribution. It differs from ordinary expositions of economic theory primarily in respect to the problems it attacks. About the problems which bulk largest in our books on "principles," it says something, but not much. Sombart now and then touches upon value and distribution; but he is chiefly concerned to find what features differentiate high capitalism from other forms of economic organization, how these features got their present form, and how they function. And about these problems our books on economic "principles" say something but not much. Yet if economics is to give us understand-

ing of economic behavior, treatment of the one set of problems is as indispensable as treatment of the other set. The two approaches complement each other, and an economist needs intimate acquaintance with both.

Sombart's methods differ from the methods employed by a writer like Marshall much as Marshall's methods in *Industry and Trade* differ from Marshall's methods in the *Principles of Economics*. In the superficial jargon we ought to banish, "induction" plays the stellar rôle which is usually assigned by theorists to "deduction." But no one can read Sombart critically without realizing that speculative notions control the whole course of his investigation. The materials he chooses are those which fit into a more or less fixed scheme of ideas. Indeed, I get the impression that Sombart's chief weakness as a scientific inquirer is that he does not keep restudying and enriching his preconceived notions as he gathers and assimilates his data. His framework is too hard and fast. It does not grow out of his subject-matter so much as his subject-matter grows out of him. One telltale bit of evidence is the frequency with which he finds three factors in his problems. Do economic phenomena really occur so commonly in triplets?

Sombart is not the only economic theorist whose interest centers in the problems of economic evolution. Karl Marx had that orientation in his scientific moods. So, too, has Thorstein Veblen when he is not indulging his satiric vein. For that matter, is not every economic historian who tries to make the materials he presents fit into a pattern, contributing, in so far as he succeeds, to our understanding of economic behavior?

That theories of the evolution of our current scheme of institutions differ appreciably is disturbing — just as disturbing as are the differences among theories of distribution. Every original inquirer finds his eminent

critics. Sombart offers a particularly broad target for attack. He has organized an enormous mass of materials, and few things are easier than to pick flaws in his details. Also, one who does not share his metaphysical and psychological preconceptions must feel doubts of a more searching character. To take but a single point: Can we accept Sombart's contention that the rise of business men to power, the transformation of the state, and the development of modern technique were "historical accidents?" I should think it possible to give an account of the development of capitalism in which these phenomena appear as inevitable and closely related products in the process of cumulative change.

Both by what its readers will take to be defects and by what they will hail as merits, Sombart's work promises to stimulate further inquiry. That is the greatest service a scientific investigation can perform. Certainly *High Capitalism* will give a direct impetus to research in the evolution of institutions. Perhaps it will render a wider service by helping all of us to see how much an economic historian needs to be a theorist, and how limited is the theoretical grasp of an economist who neglects history.

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REVIEWS

SUMNER AND KELLER'S SCIENCE OF SOCIETY¹

THE academic career of W. G. Sumner (1840-1910) is probably familiar to most American students of social science. In addition to articles on Sumner which appeared in the *Popular Science Monthly* for June, 1889, and in the *Journal of Social Forces* for May, 1925, there is a sympathetic account of his personality and character in *War and Other Essays* (Yale University Press, 1911), prepared by his pupil, Professor A. G. Keller; and still more recently, Harris E. Starr's *William Graham Sumner* (1925) has presented a full-length picture of the great teacher and scholar. Sumner began work at Yale in 1872, as professor of political and social sciences, and he remained at his post for thirty-seven years. The public knew him as a *laissez-faire* economist — in particular, as a doughty champion of free trade, the gold standard, and other economic orthodoxies. Sumner's interests, however, extended far beyond the realm of economics. He read Herbert Spencer's *Study of Sociology* (1873), and when the latter's *Principles of Sociology* began to appear, he formed a class to study the parts as they came out, thus introducing at Yale — in spite of academic opposition — what was the first course in sociology ever offered in an American institution of learning. Spencer's work influenced him, but still more influential was Julius Lippert's *Kulturgeschichte der Menschheit* (1886-1887). In the early eighteen-nineties Sumner retired from the teaching of economics, developed his course on the science of society, or "Sumnerology," as his students called it, and embarked upon the extensive researches which led to the publi-

1. *The Science of Society*. By William Graham Sumner and Albert Galloway Keller. 4 vols. New Haven: Yale University Press, 1927.

cation in 1907 of his well-known volume, *Folkways*. It was scarcely more than an enlarged chapter of a projected treatise on sociology, which he did not live to complete.

To the completion of the task Professor Keller devoted himself for sixteen years. The result lies before us in these four stately volumes, aggregating almost thirty-six hundred pages. The junior author has made full use of Sumner's extensive collections of cases, has himself gathered "some thousands" of additional cases, has worked over Sumner's manuscripts, and has written the book on the main lines that the senior marked out. Professor Keller possesses the remarkable linguistic equipment that Sumner possessed; he takes the Sumnerian point of view; and he writes, too, much as Sumner did, in a style distinguished for terseness, clarity, and vigor. Especially commendable in the reviewer's estimation is the elimination of all sociological "slang." The pages are not cluttered with new names for old things, nor is a paucity of ideas concealed under a cloud of verbiage. Sociological science, dealing with common, everyday matters, about which even the proverbial man in the street may be presumed to have some knowledge, albeit partial and often colored by prejudice, ought to be presented in common, everyday language. This has been done here. Rarely have technical terms been introduced, and only when really needed. Instances are such words as "eidolism" and "daimonism," the use of which takes the place of whole pages of explanation. It is also a great satisfaction to find, as in the chapters on marriage, a definite and precise terminology employed. One always knows, when a certain expression is used, what is meant by it. Nor can the reviewer refrain from expressing his admiration for the skill with which the enormous mass of material has been presented. Professor Keller has a gift for organization which Sumner himself did not exhibit. The book is masterly in its arrangement and in its delimitation and sequence of topics. Clear, logical, and well organized, it carries its message directly to the reader's mind.

A few quotations will illustrate the style, and at the same time the general attitude of the authors toward sociological

phenomena. "There is nothing about the needle's eye or Abraham's bosom in primitive religion" (page 169). "Out of need no right can grow except against God or nature" (page 334). "Once blood-letting was a sort of cure-all in medicine, as it was for society's ills" (page 413). "Savages are seldom secure and prosperous enough to be humanitarian" (page 581). "The passion for getting something for nothing and the fear of getting nothing for something have always fascinated the human mind" (page 739). "Science is the best friend religion ever had, for it has progressively refined and elevated men's ideas concerning the Power behind the play of natural and social forces" (page 1065). "Property is a sort of gyroscope to marriage" (page 1534). "Only the knowledge that others have what we have not can make us aware that we have not" (page 1790).

An outstanding feature of the work is the strictly scientific procedure that has been followed. It is built up, or certainly gives the impression of being built up, directly from the cases. The numberless facts in the cases are not presented to support and illuminate principles or generalizations otherwise arrived at; the latter have grown out of the former. Induction has come first, deduction has then followed. This is the method of natural science. It is now applied here, on a scale never previously followed by any earlier writer, — even Herbert Spencer, — to social science. The full extent of this procedure can be realized only by constant reference to the fourth volume, forming the so-called Case Book, in the preparation of which Professor Keller has been associated with his colleague, Professor M. R. Davie. The volume contains the cases which, for one reason or another, were not inserted with the others in the text. It cannot fail to have very great utility, tho we are inclined to believe that the weight of evidence for the authors' conclusions would be more felt were all the cases dealing with a particular subject brought together in one place. However this may be, the evidence on which the book rests is available for anyone who wishes seriously to evaluate it.

The cases have been selected chiefly from ethnography —

in other words, from the descriptions of savage and barbarian life. Here the authors follow in the track of Spencer, or, to mention later writers, of Tylor and Westermarck. The value of ethnographic evidence, as compared with the evidence yielded by modern civilized communities, is, first, that it covers a vastly greater stretch of time, for man has been savage and barbarian so much longer than he has been civilized; second, that it is less likely to be affected by conventions and prejudices on the part of the observer and reporter; and third, that it introduces the student to a wider range of societal practice. Civilized societies tend everywhere toward a monotonous uniformity of custom and belief; uncivilized societies present a wonderful diversity in their adjustments to life-conditions. The student of primitive sociology gets much the same impression of variety of *response* to environment that is gained by the biologist who deals with the lower creation. And as Professor Keller observes, it is safer, as well as easier, to explain the societally complex by working up from the simple, rather than in the reverse direction. "The adjustments of society which we call civilization form a much more complex aggregation than does the culture that went before; but the difference is in degree, not in kind" (page 2189).

It must not be supposed, however, that the book is simply and solely anthropological in character. The authors make telling use of evidence from Oriental antiquity, from the classical writers (particularly Homer and the Athenian dramatists), and from the Middle Ages and modern times. We anticipate that in their use of evidence they will encounter the stock objection of some anthropological wiseacres. They will be told that they have taken their data out of the proper context, and have heaped instances together from every part of the globe to bolster up preconceived theories. The best answer to such an objection is an attentive reading of their book. It will then be seen that Sumner and Keller devote comparatively little attention to "origins"; they are chiefly interested in "functions." They want to discover how various societal arrangements have worked or have seemed to

work, and how these have been modified or abandoned as conditions changed. The cases presented usually throw light on just such matters. As a minor, tho perhaps justifiable, criticism, we think that the authors might have done well to confine their citations of cases entirely to the primary sources, referring to other authors, such as Ratzel and Rivers, only by way of confirmation or amplification. This procedure would have reduced considerably the bulk of their evidence, while giving to it a uniformly high character.

Some seventy-five double-columned pages are required merely to list the authorities cited. These range over an enormous field and include works in a dozen or more languages. In point of sheer learning Sumner and Keller must be accounted among the leviathans of scholarship. They show, however, the utmost willingness to acknowledge their debt to the great synthesists, their predecessors. As Professor Keller remarks in his preface, such authors as Spencer and Lippert are not to be rejected as obsolete because they are old. "Facts do not become 'old,' nor, indeed, the conclusions drawn from them by men of power." The value of Spencer's contribution to sociology, often obscured or depreciated, is adequately realized. The same remark applies to Lippert, whose original and learned books have unfortunately never been translated into English. Lewis H. Morgan, the *bête noir* of some contemporary American anthropologists, gets due credit for his epoch-making and epoch-marking work. Another writer whose merits have been justly appraised is the Dutchman, G. A. Wilken. Tylor and Frazer are also constantly referred to and appreciated. At the same time one looks in vain for citations of some most important works covering much the same ground as the *Science of Society*. Westermarck's *Origin and Development of the Moral Ideas*, Hobhouse's *Morals in Evolution*, and Lowie's *Primitive Society* are such books. The discussion of religion, which occupies all of the second volume, might have profited by the use of Toy's excellent *Introduction to the History of Religions*, and the treatment of marriage, filling most of the third volume, might have taken something worth while from Howard's *History of Matri-*

monial Institutions. It is curious, too, that practically no attempt has been made to tap the rich stores of anthropological learning in the twelve volumes of Hasting's *Encyclopædia of Religion and Ethics*. But with such exceptions, little that is important seems to have escaped the authors' wide-flung net.

The book in hand might be described, in brief, as an attempt to reduce social phenomena to their lowest and fundamental terms. It is squarely based on the concept of evolution, the essence of which is the "adjustment of life to life-conditions." This is as true of social evolution as of biological evolution. We start with the conception of a human society as "a group of human beings living in a coöperative effort to win subsistence and to perpetuate the species." Given such a group, whether large or small, whether a family, a clan, a tribe, a nation, or all mankind, the task of sociology becomes that of tracing "the types of adjustment which produce societal organization, functions, and structure." The life conditions are: first, the natural or physical environment of inorganic nature, flora, and fauna; second, the social environment of fellow men; third, luck, chance, or the "aleatory element," producing an "imaginary" environment of ghosts, spirits, and gods; and fourth, the dichotomy of sex. Adjustments to nature evolve into the industrial organization; those to fellow men, into the regulative organization; those to the spirit-world, into religion; and those to bi-sexuality, into marriage and the family. The adjustment to nature, under the form of the "man-land ratio" is direct, primary, constantly tested by the realities of existence, and ultimately determinative for the other types of adjustment. This amounts to saying that in the last analysis all forms of society and of societal life go back to the "man-land ratio." The Malthusian theory and the law of supply and demand are thus lifted from a purely economic context to become the pillars of social science.

The adjustment of men to their surroundings can be only on the basis of their activities, and these, in turn, are determined by their impulses. Here, also, is a quartet: hunger and

sex-love, which men share with the rest of animal life; and ghost-fear and vanity, which are specifically human. "Hunger" means any sense of bodily discomfort that provides a stimulus to the pursuit of material well-being. "Sex-love" includes not only sex-passion but also conjugal and parental affection. "Ghost-fear" is fear of the supernatural in whatever shape. "Vanity" is a short expression for all the incitements to pleasurable activity over and above the bare needs of existence. These four are the socializing forces par excellence. Out of them and the permanent interests to which they give rise have developed the major and minor institutions of society: (1) those of self-maintenance; (2) those of self-perpetuation; and (3) those of self-gratification. The authors do not present this as an iron-clad schema. They recognize that all institutions interpenetrate, as do the impulses and interests that summoned them into being. "Property, for instance, goes back in no small degree to vanity; marriage is not by any means to be connected solely with sex and love; gambling does not find its sole motive in pleasure-seeking; dancing is often religious in nature; and religious practices are not unresponsive altogether to the hunger-interest or to that of sex" (page 90). The Science of Society is thus essentially concerned with the rise, growth, and decline of institutions considered both *in vacuo* and in their persistent interrelations and interactions.

Institutions are only customs writ large. Man is the custom-making animal, as Bagehot said, and the "study of custom is, for a science of society, what the study of the cell is for biology" (page 31). It follows that the whole book rests on the analysis of the origin and nature of custom elaborated so ingeniously by Sumner in *Folkways*. Sumner, however, never accepted, perhaps did not even glimpse, the idea of Darwinian evolution as applied to custom. Professor Keller, in *Societal Evolution* (1915) and in the book before us, has made it the central and most original feature of his treatment. *Folkways* and mores (the latter being customs that are regarded as indispensable to the welfare of society) arise spontaneously, unconsciously, unpremeditatedly, in response to

life-conditions. They are variations on what went before. Selection occurs among them. Those that are fittest at a given time and under given circumstances persist. Having persisted, they become "candidates for transmission" by imitation and tradition. The result is group-adjustment to societal life-conditions. We do not think that this account of the evolution of custom can be bettered, tho we are not inclined to stress, as the authors have done, the distinction between folkways and mores. Even Professor Keller admits (page 33) that these shade imperceptibly into one another. Furthermore, it will seem to many sociologists that in the *Science of Society*, as in their earlier works, the authors have attached too much weight to "the massive and impersonal forces of societal evolution" (page 1797), unduly depreciating the influence of powerful personalities in custom-making, and therefore minimizing the rôle of reasoned and purposeful action on the part of individual men. But we cannot enter upon a discussion of this vexed question.

The sixty-two chapters and four hundred and sixty-four sections making up the *Science of Society* are arranged in seven parts, of which the first and the last are by way of introduction and conclusion. These two parts should be read and reread, for they contain some of the best and most suggestive writing in the whole book. We would draw particular attention to the authors' rejection of the popular "instinct" theories of sociology. Thus, they deny the existence of a gregarious or herd instinct impelling man to association with his fellows, nor will they accept as primordial an aversion to in-breeding or to cannibalism. Another matter of considerable theoretical interest is the sharp separation made between organic evolution and societal evolution. This means that the authors will have nothing to do with the construction of evolutionary series that begin with the animal and end with man. "We accept unreservedly the derivation of physical and mental man from an animal ancestry, and there is in our minds no doubt that the germs of our mores and institutions lie obscurely, occasionally even plainly, in animal ways. But we regard societal evolution as upon so developed a plane

that, in order to secure a series including both animals and man sufficiently continuous to mean very much, we should have need of transitional forms of which we possess no actual knowledge" (page 2200). On the other hand, they are not at all afraid to use the testimony of legend and folklore for the reconstruction of societal stages that have passed away. "The vast significance of such reminiscences of the evolutionary past has become familiar to any student of natural history, and we believe unshakenly in their significance in the range of the science of society" (page 2199). This affirmation is significant in view of the efforts now being made to discredit the evidence of "survivals," as interpreted by Tylor, Frazer, Westermarck, and other scholars.

Part II, "Self-Maintenance: Industrial Organization," contains chapters on labor, capital, the appropriation of natural, animal, and human energies, and property. "We are rapidly coming to see that history, in its most important sense, is a record centered about the evolution of this organization. . . . Other things which have been done or have come to pass are consequential, inferential, incidental, or range themselves around this central and absorbing interest. The chief concern and importance attaching to these latter — education, science, art, institutions, mores, morals, statecraft, literature, fashion, war, glory, religion — is in the question as to how they have reacted again upon the central interests" (page 98). Naturally, these chapters reveal the senior author's earlier preoccupation with economics; but the economic basis of society is recognized and appreciated throughout the work, even in the treatment of primitive religion and marriage.

Part III, "Self-Maintenance: Regulative Organization," discusses in successive chapters warfare, kinship associations (including the clan and the tribe), government, secret societies and initiation ceremonies, classes and rights, primitive justice, and the rise of the State. Taken together, these chapters form a comprehensive survey of the topics included in what is often called "social anthropology."

Part IV, "Self-Maintenance: Religion," has an entire vol-

ume to itself. Adopting a suggestion from Lippert, who characterizes religion as the struggle for existence prolonged beyond the grave, and influenced, also, by the attention which Spencer in the Principles of Sociology and Tylor in Primitive Culture devoted to religious phenomena, the authors have undertaken a complete, or almost complete, survey of the subject. The only conspicuous omission is that of mythology. Religion appears here as essentially a form of societal self-maintenance, an institution that has arisen and developed because men have always been confronted by the "aleatory element" in life. The confrontation aroused fear of the abnormal and the extraordinary, and fear made the gods. Thus religion — at any rate primitive religion — represents an adjustment through a set of illusions to what was no illusion, namely, chance or luck. This modern version of *primus in orbe deos fecit timor* will arouse controversy. The evidence in favor of the authors' views is impressive: an objector can counter it only by submitting an equally weighty collection of data on the other side — if there be another side. It is quite impossible to summarize this division of the Science of Society. All the chapters in it reach a high level of excellence, and some of them, particularly those on taboo, magic, and shamanism, are most original and suggestive. Especially noteworthy are the authors' criticisms of the popular *mana* theory, a theory which has seduced not a few contemporary students of religious origins. On the whole, we are inclined to consider Volume II of the Science of Society the sanest treatment of primitive religion now available in any language.

Part V, "Self-Perpetuation," includes eighteen chapters on marriage and the family. This field has already been traversed by such students as Westermarck and Howard; nevertheless, the authors are able to make an outstanding contribution of their own. Matrimonial institutions are taken up as an adjustment to a life-condition, not so much environmental as intrinsic, that is, the condition of bi-sexuality. In response to it, folkways, mores, and institutions have arisen, and society has worked out automatically a system of self-perpetuation. Marriage represents a form of "antagonistic

coöperation" between the sexes, motivated less by love than by hunger. It was, originally, and is to a large extent still, an economic institution. Among the many interesting topics in this part of the book attention may be directed to the discussion of taboos against inbreeding and of the meaning of exogamy. The treatment of the latter — a vexed question among anthropologists — reveals in a clear light the authors' functional point of view. Another matter of much theoretical interest is their rejection, as against Westermarck and others, of monogamy as a truly primitive condition. This does not mean that they revert to earlier and now discarded theories of an original promiscuity, but simply that they argue for "a base-line of original looseness of sex-relations" from which forms of marriage developed by restriction. In general, much importance is assigned to the family as the "unit-cluster" of societal organization, and as the only germ from which a society can develop.

The two chapters making up Part VI, "Self-Gratification," deal with more or less unrelated societal forms, such as pastime and play, dancing and acting, fashion and ostentation, ornament and clothing. They correspond to the gratification interest. Unlike the interests which have impelled to societal self-maintenance and self-perpetuation, and out of which have developed the institutions of industry, property, war, government, religion, and marriage, they are not coercitive. They have not been shaped in response to the inevitable conditions of life. Men were not forced to resort to them as expedients for the evasion of ill. Rather, they represent positive outreachings in the direction of purely pleasurable action. However much time, energy, and wealth may come to be devoted to them, they are clearly less fundamental than the other societal activities. No real institutions have developed out of them, in consequence. These considerations account for the relatively brief treatment which they receive here.

The Science of Society is extensive and comprehensive, but it omits much found in other works on the subject. The authors leave to anthropology the discussion of man, physical and racial, as well as the analysis of culture and cultural fac-

tors. Social psychology is likewise not treated by them. It is significant of their attitude that the contributions of Tarde and later writers are nowhere utilized. Nor do the authors encroach upon the preserves of the developed social sciences. For them sociology is a study of customs and institutions that have developed "naturally," in other words, automatically and spontaneously, under the conditions of group life. It is a "master-science" only so far as it provides framework and foundations. Its relation to economics, politics, jurisprudence, comparative religion, and the rest is thus not unlike that of biology to the developed sciences of botany and zoölogy. In this connection attention should be called to the Proposed Classification of the Social Sciences, (pages 2213, 2214).

The authors have never shown any sympathy with what they describe as "transcendental" and "metaphysical" interpretations of societal phenomena: they have tried here, as in their other writings, to get down to the objective facts of social life, to stick close to the facts, and, in general, to follow the facts wherever these may lead. This attitude results in an undisguised contempt for methodological discussions, absorption in the purposes or intentions of individuals instead of in the consequences of their actions, the tendency to "reason" about things instead of investigating them, reliance on analogy as a means of discovering truth — in general, for all speculation or neo-scholasticism in the sociological field. It is not the business of the sociologist, as they conceive it, to construct utopias or to pass moral judgments. He must rather imitate the detachment of mind and cool impartiality of the natural scientist. Unquestionably, this is sound and bracing doctrine, needed now, and perhaps always likely to be needed in a study where human passions, prejudices, hopes, and fears combine to obscure the sight and befuddle the brain of the investigator. The book, then, distinguishes sharply between pure sociology, the aim of which is to account for the nature and evolution of society, and "applied" sociology, which attempts the task of social betterment on rational lines. The science must come before the art.

Such a work offers numberless opportunities for criticism, captious or otherwise. Especially is this true of the second volume, devoted to primitive religion. We think, for instance, that the chapters on the ghost-cult do not pay enough attention to the evidence for the contagion of death, and hence that there is often attributed to ghost-fear what might be more plausibly explained as fear of death itself. Again, the authors give an undue, at any rate, unusual extension to the term "fetishism" (see page 981), which in current usage is never applied to plant and animal spirits, nature spirits, or human spirits, where these are supposed to appertain to the object in question and not to be imported into it from the outside. Once more, it seems to us vital for theoretical consistency to prove that the *daimon* is no more than the developed *eidolon* (see page 1064), but there is no adequate treatment of primitive "monotheism" and of the evidence for high gods among low peoples. It is at least debatable whether magic regularly involves an appeal to supernatural agencies (page 1291; compare pages 1306 ff.); if it does not, it hardly belongs under daimonology, or the science and art of dealing with spirit powers. Nor do we regard "superstition" as the only forerunner of science (see page 765; compare pages 1411 ff.); science seems to us to have been rooted in early man's earliest observation and utilization of nature, and not in "mortal error." These points are not made with any desire of stressing them; they are simply typical of the inquiries raised in the reader's mind on almost every page of this provocative book.

The Science of Society makes perhaps its greatest contribution in providing the attentive student with a point of view or perspective over the entire range of societal phenomena. Details, special theories, and even fuller collections of facts on particular subjects we can find elsewhere, but here we have the phenomena presented en masse and in their interrelations. Many important conclusions emerge from such a survey. Thus, the authors' conception of customs (folkways and mores) and institutions as adjustments neatly spikes the guns of those who complain that such and such a usage implies

"degeneration" or exhibits "retrogression." In either case the usage in question represents an adjustment to life conditions, and adjustment is the keyword of this book. Similarly, the functional treatment makes it possible to dispense with much fruitless inquiry into the origin of societal practices, or else to show that these have often, perhaps usually, multiple origins. Again, we cannot see how anyone who attentively considers the evidence here brought together can fail to recognize the unitary working of the human mind in all places and at all times. The acknowledging the important part played by acculturation, or the diffusion of culture throughout the world, the authors nevertheless pin their faith mainly to parallelism, or independent origination, as the chief explanation of cultural similarities (see pages 527, 2193). Here, again, they have returned to the older, well-founded views, rather than to the tenuous speculations of those who style themselves "historical ethnologists." Finally, these four volumes constitute an impressive demonstration of the fact that there is such a thing as a science of sociology, something that is not history or yet anthropology, but is an independent and indispensable branch of learning. They may yet prove to be the sociological fulcrum upon which to move the academic world.

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MILLS' BEHAVIOR OF PRICES¹

THIS is a systematic study of the behavior of wholesale commodity prices, and of the various statistical devices for measuring and otherwise describing such behavior in convenient summary form. It gives evidence throughout of that high degree of technical competence and of inventive ingenuity to be expected in any statistical work by Professor Mills. For individual price series and for price averages, the

1. *The Behavior of Prices*, by Frederick C. Mills, National Bureau of Economic Research, Inc., New York, 1927, 598 pp.

following aspects of price movements are studied in detail: variability about various means; trends; and timing, duration, and amplitude of cyclical changes. For the behavior of price relatives in groups, the following aspects are studied: index numbers; frequency distributions and their criteria; dispersion; displacement; variability; and cyclical changes. The book is a valuable repository of laborious computations in terms of these devices and methods for some two hundred wholesale commodity price series for the period 1890-1925. It is a contribution of great importance to the history of prices in the United States since 1890. It makes an impressive addition to the laudable record of achievement of the National Bureau of Economic Research.

Appraisal of the contribution of this volume to the technique of statistical description, the reviewer must leave to competent statisticians. The significance for economic theory of the technique employed and the results obtained is the only concern of this review. The book presents a wealth of raw material for the theorist to ruminate upon. Hypotheses clamoring for a test spring up from almost every section. A rich field of theory, namely, the statistical study of the objective behavior of prices in relation to other economic factors, needs for its further exploitation just such techniques of statistical description as are here admirably expounded and perfected. In this sense the volume makes an indisputable contribution to economic theory, in addition to its contributions to economic history and to statistical method *per se*.

But the book sets up claims for more — to having made a specific and direct contribution to economic theory. For the objectives of this study are stated to be:

First, to secure a fuller understanding of the behavior of individual commodity prices and, secondly, to increase our knowledge of the working of the price system and of the interrelations between its component elements. To attain the first objective we shall make use of various methods of measuring the characteristics of individual price series. In seeking to attain the second we shall be searching for uniformities and regularities in the behavior of prices in combination. . . . We shall be seeking principles of order in the realm of prices. [Page 31.]

The concluding paragraph is also pertinent in this connection:

The second fact of importance is the existence, among the diversity of price movements, of just those uniformities for which the scientist searches in attempting to reduce masses of facts to understandable terms. The present investigation and those which have preceded it in this field have gone only a little way in the search for principles of order among the variations within the price system, but there have been revealed numerous interrelations and uniformities, and there have been found many clues to other regularities. In the existence of these regularities lies our hope of achieving a fuller understanding of the working of the system of prices. [Page 439.]

Professor Mills promises a second volume, but the only indication of its contents is the statement that "the remainder of the present volume and all of the volume which will conclude the present study deal with the system of prices. For a study of the behavior of prices in combination is a study of the price system." (Page 214.) This suggests that the contents of the second volume will not be different in kind from those of the second half of the present volume. Moreover, Professor Mills makes definite claims for the contribution of the present volume to the explanation of price relations. It seems, therefore, that the examination and appraisal of the adequacy of his methods for the purpose of throwing light on price relationships can be made without the reservation that the author may regard the work so far accomplished as, for this purpose, merely preparatory to a different type of analysis in the forthcoming volume.

For the price theorist, the points of outstanding interest in this volume are: the faith expressed by the author in the existence of a "price system" — "a system infinitely flexible in detail yet stable in the essential balance of its interrelations, a system like a living organism in its ability to recover from the serious disorders into which it periodically falls";² his description of the characteristics of such a system; and his confidence that his method of analysis is adapted to, and that his investigation has contributed to, the demonstration of its existence.

The outstanding contribution which the volume achieves

2. Quoted by the author (p. 31) from W. C. Mitchell's *Business Cycles*, 1913, p. 31.

is the reduction to precision and measurability of concepts that economists generally use vaguely and loosely. It is therefore unfortunate that the reader is given so little help in determining just what constitutes a "system" of prices and how one is to know when the "order," the "regularities and uniformities," which are apparently the criteria of a "system," have been discovered in sufficient degree to warrant confidence in its existence. With a few minor exceptions with which he deals only parenthetically and briefly (namely, short studies of elasticity of demand and of regional differences in prices, and occasional illustrative references to economic series other than commodity prices), Mills confines himself to the study of the relation of prices to prices; he deals only with wholesale commodity prices; and when he deals with prices in combination, he bases his sub-groupings only on chronological criteria or on differences in quantitative behavior. With the minor exceptions referred to above, he avoids any other grouping of prices that might be suggested by economic theory or hypothesis, and he refrains from any search for relations between the economic characteristics of particular commodities or sub-groups of commodities and their price behavior. He does not deal at all with the one type of price behavior that indisputably and obviously is closely related to fluctuations of a factor external to prices, namely, seasonal fluctuations.

Mills concedes, of course, that there are other things in the economic order than prices, but it appears to be his position that the "price system," tho a part of a broader whole, has an independent existence of its own as a system, marked by ascertainable principles of order and regularity. He refers to Walras, apparently in support of his own position: "Léon Walras, in describing the conditions of general economic equilibrium, defined in mathematical terms certain characteristics of a system of related prices. In the Walrasian system prices are one element in general economic equilibrium." (Page 213, note.) To Walras and other price theorists, it may be hazarded, the second sentence in this reference would have been vital as in some degree corrective of an ambiguous note

struck by the first sentence. To the price theorist, wholesale commodity prices are *an* element in the economic system, as are other classes of prices, — prices of the factors of production, retail prices, prices of services,—and as are also demand and supply functions, market structures, the technical conditions of production, and ultimately the wants and aversions, the habits and customs, of mankind. The theorist would agree with Mills that “no one price is an isolated, independent phenomenon” (page 213), but he would assert it with equal vigor of wholesale commodity prices in combination, and he would deny that “an individual price has significance only in its relations to other prices” (*loc. cit.*), if this means that its relations to other prices are, by themselves, sufficient data from which to appraise its significance. He would agree that “every price is connected by immediate or remote bonds to every other price,” in the sense that all prices are connected; but he would insist that the bonds are never immediate, that prices are never related to each other directly, but always by means of a connecting tissue of demand and supply functions. He would probably be sceptical, also, of the possibility of getting much insight into the character of the relations between prices in the absence of any reference to this connecting tissue. It is interesting to see, therefore, what light can be thrown on the relations between prices, and on the existence and characteristics of a quasi-independent system of prices, by a method of analysis which deliberately leaves these considerations out of account.

The essential characteristics of the method are the restriction of the data investigated to commodity prices and time, the avoidance of use of any hypotheses or rationalized theories, and the search for evidence of regularities in price phenomena which would reflect the existence of principles of order in price relations *inter se*. If a biologist were deliberately to inhibit himself from searching for associations between distinct and obviously non-homogeneous classes of phenomena, such as height and race, but were to deal only with the “behavior of heights”; if he arbitrarily limited his investigation to heights of persons under a given age—ten or

fifteen years — but without further differentiation according to age;³ if he based his groupings of heights merely on chronological order and degree of change of his height data, without reference to any special qualities of the different persons or the different units of time; if he scrupulously avoided making use of any biological theory or hypotheses; and if he sought by such means to demonstrate the existence of a "system of heights," the investigation would seem to approximate in method that undertaken in this volume. Mills' application of this method to wholesale commodity price data is indisputably thoro and able. The character and quality of the results obtained should provide a fair test, therefore, of the usefulness of the method as a method of price theorizing.

In examining the results of Professor Mills' investigation for indications of order and regularity in price phenomena, it will be convenient to follow the division made by him between measures of the behavior of individual prices and measures of the behavior of prices in combination.⁴ The first indication of regularity in the behavior of individual commodity prices noted by Mills is the existence, before the war, "of fairly constant rates of change in individual commodity prices, rates of change which differed materially from commodity to commodity and from group to group. What was constant in the pre-war price situation was not a set of fixed price differences but relations which changed at fairly regular rates year by year." (Page 74.) This finding is unsupported, however, by any evidence beyond the bare statement that "the exponential curve gives, in general, a good fit to most price series for the years 1896-1913" (page 67). Decision as to what weight should be given to this finding obviously calls for some indication of the number of price series for which this curve gave a good fit, and the standards of goodness of fit that were used.

3. It might be objected that the suggestion here of a sample that is clearly unrepresentative is unfair to Mills. But are heights of persons under ten less representative of heights of all persons than are wholesale commodity prices of all prices?

4. Of the four chapters in the present volume, the first two deal with measures of the first sort, and the last two deal with measures of the second sort.

For cyclical behavior of individual price series, Mills has found significant correlation between a number of aspects of the timing, duration, and amplitude of rises and of falls of the individual price series.⁵ As indicative of the successful results obtained, the following verbal summaries may be quoted.

The commodities which rise first on revival are subject, in general, to wider cyclical fluctuations than are the commodities which lag on revival. Similarly, the commodities which decline first on recession are marked by wider fluctuations than are those which lag. [Page 158.]

There is a clear tendency for the sequence of revival [for each individual commodity price series] to follow a common pattern during different cycles. The same tendency is observed in studying the sequence of recession in different cycles. [Ibid.]

The evidence upon which the preceding statements are based is of considerable general significance in showing that there are true economic regularities in the price movements which accompany cycles in general business. In cycle after cycle there has been observed a degree of uniformity in the sequence of revival and recession in commodity prices and in other aspects of price behavior. If cyclical movements represented the play of mere variability about a mean or a trend, one would expect the sequence of price change in each cyclical swing to be unique, except for certain chance resemblances to movements at other times. Yet the odds against chance alone accounting for the regularities we have found are infinitely great. In period after period there is a recurrence of price movements which have something in common, in respect to sequence of change, amplitude and duration. These changes in different periods are far from showing perfect uniformity, but there is unmistakable evidence that the observed resemblances would not be found if the cyclical movements of individual prices represented random fluctuations alone. The phenomena of business cycles show just those regularities and uniformities which it is the business of the scientist to discover, trace and, if he can, explain. [Page 159.]

These are the only regularities in the behavior of individual price series which Mills claims to have disclosed by his analysis. With the exception of the constancy of the rate of

5. See his Tables 42-50. It should be pointed out that while Mills refers repeatedly to "business cycles," the subject-matter of his analysis is price fluctuations and not business fluctuations.

change of individual price series before the war, they all relate to cyclical behavior.⁶

To some extent the degree of consistency found in the cyclical measure of behavior of the individual series may be imputed to the persistence throughout the successive cycles of some economic characteristics of the individual commodities, whose nature is not revealed by analysis such as this, confined to price behavior alone. To this extent, such measure of success in finding regularity as Mills has here attained may be attributed to the fact that the method of analysis used, *in spite* of its failure to take the economic characteristics of the commodities expressly into account, permits such of these characteristics as are persistent to exert an influence on the results. To the extent that these persistent economic characteristics of commodities are known or suspected to be related to their cyclical price behavior, Mills has achieved the occasional discovery by chance, and without any contribution to explanation, of relations which, *a priori*, he could have discovered with less waste effort and in more conclusive form if he had applied his technique of analysis to both price and non-price data, selected with the aid of known and plausible hypotheses with respect to the relations between commodity characteristics and their cyclical price behavior.

In order adequately to appraise the value of this method of attack, account should also be taken of the analyses which failed to produce evidence of significant relations. It is im-

6. The coefficients of correlation found by Mills between the various measures of cyclical price movements indicate the degree of regularity of cyclical behavior, not of all the price series investigated, but only of a series of prices selected on the basis of the conformity of their monthly variability to the general cyclical framework outlined by the author. The omitted series include: (1) the prices of 26 commodities classed as "exceptional" because their failure to conform to the standard schedule of cycles was pronounced (p. 81); and (2) 34 other commodities, which passed through less than five complete cycles between 1890 and 1925. This leaves only 149 out of 209 price series to which the analysis was applied. [Page 128.]

Even for the included series, only such parts of the series were used in computing these coefficients as conformed in their cyclical behavior to the cyclical behavior of the wholesale commodity price index number. For each cycle, on the average about 115 of the 209 series were used.

possible here to list all the instances in which the analysis admittedly produced no evidence of regularity. A few quotations from Mills will indicate the character of these negative results:

It is clear from Table 4 that individual commodities differ materially in the matter of price variability and, also, that the variability of specific commodities has changed from period to period. [Page 46.]

The wide differences between the measures for different commodities give evidence of the diversity of forces which are responsible for fluctuations in the prices of economic goods. [Page 48.]

Measures [of average annual rate of change in price] have been computed for 223 commodities in all. The pronounced differences between these measures indicate the degree of change which was taking place in the relative positions of different commodities. [Page 69.]

There was no normal pre-war relation between prices, in their absolute form. [Page 74.]

There are wide divergences from any common pattern in the [cyclical] behavior of individual commodity prices. [Page 81.]

The evidence of order and regularity found by Mills in the behavior of prices in combination is, relative to the extent of his investigation, even less impressive than the evidence of regularity in the behavior of individual prices. Here the prices of all commodities are merged in some form of average or of distribution, so that year-to-year comparisons are of the changes in averages or distributions of all the prices, and not of changes in the prices of particular commodities kept distinct from each other. For the types of measures of behavior here used, persistent economic characteristics of particular commodities will therefore be less likely to result in a tendency to stability of behavior of the measures than where, as in the first part of the study, each price relation forming the basis of an observation is the relation between the prices of *the same commodity* at different dates.

A significant correlation (+ .614 for 35 pairs of observations) is found between degree of change — regardless of direction — in the price level and degree of dispersion of prices (page 284). All that it is necessary to adduce in explanation of this correlation is that, in addition to the many influences

affecting particular commodities which operate to bring about dispersion of prices even when the price level is constant, active pervasive factors tending to affect all prices will further increase dispersion if different commodities have varying degrees of resistance to their influence.

In distributions of fixed base relatives there appears a tendency to depart from what Mills, following Kelley, calls "stable" frequency types during years of violent price disturbances and to approach more closely to them when price conditions became more stable.

It is a curious and dramatic thing, this march of the successive Beta points back to the Gaussian point [during the years 1919 to 1923, inclusive]. . . . It exemplifies in striking fashion the emergence out of chaos of that form of order which the play of sheer chance brings. Here is nature forming habits. [Page 347.]

Mills himself points out that the price relatives on a fixed and distant base have been subject in the course of years to the cumulative and joint effects of a great many different factors; that in quiet years the price relatives computed from a distant base would reflect the influence of a great number of minor factors instead of the dominant influence of a small number of pervasive and powerful factors; and that the interrelations between particular factors would have weakened during the passage of time. In quiet years the frequency distributions of price relatives on a fixed and distant base would, therefore, meet the requirements for the production of good expectancies on the basis of the law of chance more closely than is usual for undifferentiated price data such as are here dealt with. They would, therefore, be more likely to approximate one or the other of the so-called "stable" types. That this should have suggested a sense of the dramatic indicates how rare is the occurrence of situations adapted to the fruitful application of the calculus of probabilities to price data, without previous recourse to economic analysis and classification of such data.

In the frequency distributions of logarithmic weighted year-to-year link-price relatives, pronounced positive skewness is generally found during years of rising prices and sharp

negative skewness is usual during years of falling prices (pages 349,350). In other words, in years of rising prices a greater proportion of the prices are likely to show very high relative increases than correspondingly low relative increases (or decreases) over the preceding year, and in years of falling prices a larger proportion of the prices are likely to show very high relative declines than correspondingly low relative declines (or increases) as compared to the preceding year. This holds for almost every year since 1891, and the exceptions appear to be mainly years in which there was a sharp reversal of trend of prices within the year. This result is interesting, but is what should be expected, since there is reason to anticipate, on a priori grounds, that some commodities will be highly sensitive to a general price-disturbing factor, and thus will tend to bring about a skewness in the direction of the general change.

On the basis of his measures for the period 1890-1914, Mills finds a notable degree of year-to-year stability in the mean monthly variability of the measures for individual commodities:

The relative stability of the averages from year to year, prior to the war-time disturbances, is worthy of note. . . . In 20 of the 25 years [the average] is between 4.0 and 5.0. We may judge from this considerable sample that except in times of such extreme price disturbances as were brought by the war, the amplitude of the fluctuations of individual prices, viewed collectively, does not vary greatly from one year to the next. The cyclical swings of the general price level are hardly apparent in these averages, which take account of all price changes. [Page 374.]

In the absence of extreme price disturbances and of cyclical changes in prices, there would be no apparent reason to expect a lesser degree of stability than that indicated by the data.⁷ After the elimination of pervasive factors—of which extreme monetary disturbances and cyclical price-level

7. The measure of year-to-year variability found by Mills in the annual average of the month-to-month variability of the 206 individual series does not appear to me to be strikingly low. Thus, for the period 1900-14 it is 10.1, which is higher than the average year-to-year variability of at least 137 of the individual series for the period 1890-1913. (Page 375, and Table 216, p. 377.)

changes are the important ones—which tend to produce large yearly variability in all prices, the seasonal, trend, and myriad casual factors should, on probability grounds, be expected to leave the average monthly variability substantially unaltered from year to year.⁸ The main point demanding explanation, therefore, is the failure, which Mills emphasizes, of the annual averages of monthly variability to reflect the recurrent cycles of rise and fall in the general wholesale commodity price level. The guess may be hazarded that a partial explanation lies in the mutually counteracting effects, on gross monthly variability, of upward or downward trends, on the one hand, and of seasonal fluctuations, on the other. If the price series of commodities particularly subject to seasonal fluctuations in prices were separately grouped, it might be found that their average monthly variability was less during periods of rise or of fall in the general price level than during periods of stability in the price level.

The frequency distributions for individual price series of (a) duration of price rise during periods of revival and prosperity, and (b) duration of price recession during periods of recession and depression, both show positive skewness, but the skewness is less for (a) than for (b). (Pages 405 ff.) There seem to be obvious explanations both of the positive skewness in these distributions and of the difference in degree of skewness. Any frequency distribution of performances requiring stamina or skill—as, for instance, endurance tests, where low values are the easy values and high values become progressively more difficult of attainment while still continuing to be possible—would tend to show positive skewness of the type found here, that is, a long tail in the direction of high values (in this case, *long* duration). Continuous repetition of price changes in a given direction would, in a variable world, appear to be of this nature. The general upward trend of prices during the period under examination would explain

8. Unless some factor, such as, for example, improvement in storage facilities, should be tending over time to lessen the importance of seasonal fluctuation in prices as a contributory source to the gross average monthly variability of prices.

adequately the greater positive skewness of the distributions of duration of price rise than of price fall. During this period a commodity was more likely to maintain a very long-continuing upward price trend than a very long-continuing downward one. If the trend were to be taken out of the data, no pronounced difference between the two distributions in degree of positive skewness should be expected.

These are the only indications of order and regularity in the behavior of prices in combination, found by Mills, which are pronounced enough to call for comment. They do not seem impressive, in the face of the abundant evidence of apparent instability and irregularity in price behavior to be found in this volume. Indeed, the most striking regularity disclosed is the regularity of irregular and seemingly erratic behavior. In general, Mills himself is struck by the absence of the degree of order and stability which similar investigation in other fields could be expected to reveal.

A distinguishing feature of distributions of price relatives is that they do not conform to any one type, but undergo marked changes with variations in price and business conditions. Most distributions of homogeneous data from biological, anthropological or other scientific fields, tend to conform to a common type, without sharp variations from sample to sample. [Page 354.]

Distributions of price relatives are of an erratic and extremely unstable character. [Page 368.]

We are dealing with a population which seems to contain inherent elements of instability. This population is subject to violent internal changes which are reflected in radical alterations from year to year in the form and character of the frequency distributions. [Page 340.]

Evidence of irregularity is itself, of course, a sort of result. But when sought in fields in which there are no *a priori* grounds for expecting to find regularity, it is the easiest sort of result to obtain. In any case, it is not evidence of this kind that is the objective of Mills' analysis.

For price theory as such, the immediate harvest from this elaborate investigation seems scanty. The main significance of its results for theory may perhaps consist in its new and

empirical basis for scepticism as to the wisdom of reliance on empirical trial-and-error methods, unaided by hypothesis; and in its unintended contribution to a revived faith in the usefulness of price theory in explaining the relations of prices to each other and to other economic factors. But Mills finds support for his method even in its failures to produce results. Having found large measures of inconsistency in the timing of price rises and recessions of different commodities during business cycles, he makes the following comment:

This is true, however, of most economic relations, and does not mean that principles of order cannot be found in the working of the price system. It means, only, that relations between prices are statistical and not mechanical in character, and that the interpretation and use of the data secured from studies in this field involve the calculus of probabilities rather than the rigid formulas of mechanics. [Page 101.]

Toward the end of the eighteenth century there was, in certain advanced circles in France, somewhat of a trend toward the belief that the possibilities of the traditional non-experimental methods had been exhausted (not, however, that they had never had any possibilities), and that further progress could be made only by resort to the calculus of probabilities.⁹ There seems more ground for such belief in the twentieth century than there was in the eighteenth. But at its best, immediate application of the calculus of probabilities to unanalyzed data is a *pis aller*, a makeshift, to be resorted to only when no means are available of finding information or plausible hypothesis about the relations of these data to each other and to other classes of data. Mills' own investigation demonstrates that run-of-the-mine price data, ungraded or graded only according to a few arbitrary characteristics, display in high degree lack of homogeneity, insta-

9. Cf., for example, Condorcet: "Peut-être même, dans plusieurs branches des sciences politiques, approchons-nous du terme où tout ce que la raison peut faire seule sera épuisé, où l'application du calcul [des probabilités] deviendra le seul moyen de faire de nouveaux progrès." Rapport et Projet de Décret sur l'Organisation Générale de l'Instruction Publique (new edition, Paris, 1883, p. 104; original edition, Paris, 1791).

bility in their criteria over time and space, absence of mutual independence, and, during any particular disturbance of moment, subjection to control by a few particular variables of predominant but unbalanced importance. The data to which Mills applies his analysis seriously violate, therefore, every one of the conditions requisite to the production of reasonably good expectancies by the application of the calculus of probabilities. In working with empirical data where perfect experimental control is wholly out of the question, recourse to methods involving some degree of reliance upon probability theory is necessary. But the data must be so prepared that they are suitable for analysis by such methods. Data which in their original form do not meet the tests of homogeneity, independence, and freedom from control by a few powerful and unbalanced factors, can be transformed, by proper groupings, into data meeting these tests adequately. Such groupings are unlikely to be come upon by chance, or to be found even by exhaustive experimentation with all the permutations of price-to-price relations alone. The suggestions for such groupings must be sought, in the main, in the propositions and by the modes of analysis of some generalized body of theory; a theory formulated necessarily in quasi-mechanical terms because it is only in such terms that we know how to summarize, organize, and synthesize our detailed knowledge relating to many interdependent variables. Resort must then be had to probability, in order to appraise the significance of the deviations of the observed data from the inferred quasi-mechanical law. The fact that actually observed relations never reveal the rigidity and perfection of those posited by the mechanical theory neither impugns the validity of that theory in its own universe of thought nor warrants lack of faith in its fertility as a source of promising hypotheses which are to be tested in the realm of statistical relations. Disappointment with the degree of light thrown on price relations by Mills' analysis does not rest on his failure to find rigidly perfect mechanical relations; for these are not in question if they existed here, and would not be revealed by this type of statistical analysis. It is the mea-

ger showing in the way of statistical "probability" results of the sort that Mills is himself looking for, of the appearance of order in data selected at random, which is disappointing. Professor Mills has made a valuable contribution to the statistical tools useful in the search for answers to questions concerning economic relations, once the questions have been asked. From the point of view of economic theory, the only criticism to be made of his work is his apparent satisfaction with a technique ill adapted to finding out *what questions to ask*.

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ACADEMIC ECONOMICS IN PRESENT RUSSIA GELESNOFF, GRUNDZÜGE

It is not without curiosity that a reader approaches a book on general economics written by a professor at the University of Moscow in 1928.¹ Various questions come to his mind. What kind of economics is in circulation in academic Russia? What are the fundamental hypotheses and the dominant categories? What school of thought is the guide and which economist the new prophet? And what kind of person is the author?

About the last question first. Professor Gelesnoff has been one of the most popular professors in Russia for the last thirty years. He had been an *enfant terrible* with the authorities of the old régime, because he insisted on spreading Marx's teachings among the students. In 1904 he published a monograph on the dominant wage theories. In 1917 he wrote a book on the economic ideas of ancient Greece, which is the first contribution to a large compilation on the History of Economic Thought, edited by him and his colleague, Pro-

1. Grundzüge der Volkswirtschaftslehre, von W. Gelesnoff. Nach einer vom Verfasser vorgenommenen Bearbeitung deutsch herausgegeben von Dr. E. Altschul. Zweite, neubearbeitete auflage. B. G. Teubner: Leipzig & Berlin, 1928. Pp. xii + 561.

fessor Manuiloff. In 1927 he was one of the economists who were invited to outline the development of economics in their respective countries, in the first volume of the memorial work dedicated to the late von Wieser.

In 1902 the attempt to publish his book on general economics met the censor's veto; in 1914 the first edition appeared in German. The volume now published is a second edition, much revised, and rendered into German under the supervision of the author, without changes, the translator assures us, as regards viewpoints and doctrine.² This assurance is not required. The present Russian government will hardly tolerate a professor who prepares for export a product that bears the hallmark of the traitor's pen. On the basis of such books and articles as I have been able to read, I venture the guess that this treatise is representative of the economics taught in academic Russia.

The detailed table of contents begins to throw light on some of the other questions. After three preliminary chapters, in which are treated respectively the stages of economic evolution, the basic assumptions of the classical and historical schools, and the natural and social milieu of economic activity, the reader's eye meets the fourfold classification, of production, exchange, distribution, and consumption, into which the remainder of the book is cast. The chapters under these heads also strike familiar notes. The factors of production and industrial organization — large-scale, corporate, and monopolistic — receive detailed attention. Under exchange are discussed, first, the principles, that is, value; and then the mechanisms, like money, credit, transportation, and commerce. Then follow chapters on wages, interest, and rent, with a final chapter on consumption and industrial fluctuations. Thus the categories are the same as in bourgeois economics. The bottles are old. Now as to the wine.

The author maintains, throughout, the even tone and ob-

2. These biographical notes are incomplete and possibly are not entirely accurate. They are based on the translator's preface, on footnote references in the book under review, and on some articles written by Professor Gelesnoff in German.

jective attitude of the scientist. There is surprisingly scant employment of such belabored phrases out of the Marxian philology as exploitation, coining of blood into capital, surplus-value, dialectic. He discusses the inhuman conditions of child labor in the early English factories; the bitterness of employers and the partiality of judges in the fight against labor organizations; the resistance of employers to factory legislation in England; and the story of mistaken governmental monetary policies, of credit and banking operations, of the failings of private enterprise in railway transportation, of speculative adventures on the exchanges, and of the recurring industrial crises. Yet in it all there is no willful distortion of the propagandist sort, no waving of the red flag, no flinging of tirades.

On the contrary, Professor Gelesnoff indicates that child labor existed before the advent of the factory, and that the parents themselves were anxious to see their children employed and helped the employers evade the laws.³ He records that liberals and wealthy philanthropists aided greatly in bringing legislative relief (chapter 15); and he lauds the English factory inspectors for their fidelity and their assiduity in enforcing the laws, in revealing bad conditions, and in urging more effective legislation.⁴ He scores the English trade-unions for their pursuit of immediate one-sided interests, and for their apathy to the larger aspects of social legislation and to the fate of their unskilled brethren.⁵ He sees much good in stock, commodity, and foreign-exchange speculation.⁶ More interesting still, he can refer with unaffected sincerity to the "higher" needs of man; the "goods of higher order," such as religion, art, and ethics; the "divine sparks that stir within men's souls"; and "Christian patience and gentleness."⁷

At the same time the book is suffused with a quiet, warm sympathy for the laboring masses. The author is always anxious to peer into the factory or to cross the threshold of

3. Pages 21, 427, 429.

4. Page 228.

5. Page 453.

6. Pages 385-387.

7. Pages 1, 2, 4, 47, 48, 73, 537.

the dwelling-house in order to see how the laborers work and live. He looks for the palpitating reality behind the words "struggle for existence," "production," "division of labor." This explains the disproportionate amount of space devoted to labor questions. He never wearies of discussing at great length the psychology of work and fatigue; the status of the laborer and the motives in his work since primitive days; the influence of the standard of living and working hours upon productivity in various countries; the theories of division of labor from Xenophon down to Durkheim and Bücher; the different forms of wage payments; the history of the various types of labor legislation in various countries; and many other topics. And whenever he deals with new schemes or transition periods, he indicates how heavily the burden fell on the poorer classes, and argues that society must alleviate the pains of transition, and that social control is imperative as a ready instrument of protecting the weak.

Always courageous and candid, the author more than once puts his head into the lion's mouth, expressing opinions that are at variance with the Marxian theology. He acknowledges that overpopulation and diminishing returns will threaten the efforts for social amelioration, unless science offers effective counteraction.⁸ He does not believe in the dogma of increasing misery, but maintains that, because of political freedom and labor organization, the worker's lot is steadily improving; and that the modern worker, so far from being stunted and degraded, is intelligent and self-assertive.⁹ While the machine may in many instances render the work hard and joyless, he affirms that it ordinarily exercises the alertness and resourcefulness of the worker, excites his curiosity for knowledge, shortens his working day, and provides him with leisure for education and recreation.¹ He does not deplore the disappearance of the medieval handicrafts, and he has no sympathy with the idyllic pictures painted by Engels of the life of the independent artisan.² To him the city is not a depository of human misery, an agglomeration

8. Pages 62, 63.

1. Pages 100, 124-127, 117.

9. Pages 26, 196, 119.

2. Page 157.

of workers' hovels on filthy streets, but a center of education, social intercourse, and political activity — for the workers and others alike.³ He points out that agriculture resists the concentration and centralization that Marx predicted for every phase of economic effort.⁴ He disagrees, likewise, with the prognosis of Marx and Engels that crises would become progressively long and severe, and would finally bring capitalism to a dramatic standstill. He states that, on the contrary, crises are growing milder because of social control, and are far from threatening the integrity of the present order.⁵

As regards the development of economic institutions, the author, in common with the older German economists, adopts the segmentation of history into stages, following Bücher's well-known stages of the family economy, the town economy, and the national or the modern capitalistic economy. He is aware of the objections raised by Meyer and Beloch; but he insists that any ancient or medieval economic activity which partook of the nature of modern capitalism was incidental and never of impressive magnitude. The self-sufficient household was the "ideal-type" of Greece, Rome, and the manor; the handicraft, with its guilds, of the medieval town. True, there had been a measure of development in credit and commerce in antiquity and in the Middle Ages; but it concerned international trade. Internal commerce never reached proportions which would prejudice the validity of Bücher's stages.⁶

In the characterization of capitalism the author lays emphasis on its peculiar psychology. The two main features of the present order are gain as the end and rationalization as the means. There is an insatiable hunger for profits. There is increasing knowledge of nature's behavior; and the standardization and precision of the machine replace the waywardness of human skill. These two traits find not only a friendly echo, but their impetus and confirmation, in Protestantism since the days of the Reformation.⁷

3. Pages 24, 364.

5. Pages 547, 548, 561.

7. Pages 18, 19.

4. Page 148.

6. Pages 5-14, 366, 367.

In its externals, capitalism appears decent and "correct." But in its essence it stands for many an infraction against genuine ethics. There are the exorbitant prices, the blatant advertising, the unbridled speculation, the appeal to low instincts. There is the imperialistic penetration into backward countries, with the consequent oppression and exploitation. The whole institution of private property, so far from enhancing the ethical value of personality, can extinguish the "divine sparks that stir within men's souls." Fichte was wrong. The classical school regarded property as holy and as indispensable to cultural development; but these are "primitive conceptions." All these views obviously reflect the influence of Sombart, Max Weber, and Marx.⁸

The product of a long historical evolution, capitalism does not remain immutable. Free competition is merely a passing phase, and the English economists erred in their faith in competition as an abiding mark of capitalism. There is an inherent and persistent tendency for industry to concentrate in the hands of the few. Except for agriculture, Marx's prediction finds its triumphant confirmation in the steady growth of trusts and cartels. The author admits, however, that the number of the owners of capital is not dwindling.⁹ It is curious that he does not realize that this admission emasculates Marx's prophecy. Marx's doctrine of centralization of capital affirms that ruthless competition would drive industry into ownership by a few individuals, so that the state would very easily expropriate them in behalf of a socialistic society. This ultimate dissolution of capitalism into socialism he prophesies, like Marx. Perhaps to lend academic dignity to the verdict, he mentions that the same opinion is entertained by Bücher and Schumpeter; and he reminds us that J. S. Mill and even Alfred Marshall¹ had socialistic leanings.²

We may now turn to an examination of our author's views

8. Pages 377-379, 25, 194-195, 73-74.

9. Pages 167, 172-176.

1. See A. Marshall, *Industry and Trade*, pp. vii, viii.

2. Pages 28, 185, 186.

on economic theory proper. While he prefers the genial atmosphere of the German historical school, which possesses the historical sense, upholds the doctrine of relativity, appreciates the indispensability of state intervention, and entertains a more attractive view of human nature, he deprecates it, nevertheless, for having diverged from the highway of theory in order to indulge in tedious and sterile rummaging in the by-alleys of specific historical incidents. Professor Gelesnoff keenly appreciates the value of economic theory; and, despite his distaste for the basic assumptions of the English school, he declares that "the foundations of the modern system of political economy were laid by the so-called classical school of economics." And throughout the book he pays tribute to it for its profound elaboration of various theories, albeit he does not agree with all of them.³

The theories of value he divides into three classes, the subjective or utility theory, the objective or labor theory, and the equilibrium theory. He finds that the first theory was introduced by Xenophon, Plato, and Aristotle; held sway from the later Church fathers through the eighteenth century; and then was resumed by Gossen, Jevons, Walras, and the Austrian school.⁴ The labor theory was held by the early commentators of Aristotle, then by Petty, Smith, and Ricardo. The author appreciates the fact that in sections four and five of the first chapter of the *Principles* and in the well-known letter to McCulloch, Ricardo began to throw doubts on the pure labor theory, and to pose the problem of including labor and capital as elements of the cost of production. But Ricardo gave no satisfactory solution.⁵

It is at this juncture that the name of Marx is heralded, with a generous measure of praise for having investigated this problem with greater profundity than Ricardo. A lengthy exposition follows of Marx's views, with the display of the formulas $C-M-C$ and $M-C-M'$, and the usual examples of surplus-value.⁶ One must protest that, try as one may, no superiority of Marx over Ricardo can be seen. These su-

3. Chapter 2.

5. Pages 211-220.

4. Pages 187-210.

6. Pages 220-229.

perfluous formulas, and the other accoutrements from Marx's arsenal, fail to present the problem with clarity, to offer a solution, or to advance the problem one step beyond Ricardo. The author acknowledges that the labor theory as given in the first volume of *Capital* is not in accord with the facts; and that in the third volume Marx presents a different view. But he sees no contradiction, maintaining that in the first volume Marx lays the general groundwork, while in the third he attempts to elucidate the details.⁷

This is a curious way of removing contradictions. In the first volume the value of a commodity depends on the amount of "socially necessary labor time" expended on the production of it. In the third volume value is regulated by the "price of production," including labor cost, interest, and profit; and the gain obtained from the sale of the goods is no longer commensurate with surplus-value, but with the "social rate of profit" on the outlays.⁸ Böhm-Bawerk and other economists are right in charging Marx with an irreconcilable inconsistency. The author candidly admits that Marx is not successful in showing how labor value is transmuted into the "price of production," yet this does not prevent him from singing another ode to Marx for having, at any rate, projected a beam of light on surplus-value as the source from which the propertied classes derive their income; and for thus having realized Ricardo's dream of uniting value and distribution into a harmonious whole!⁹

Proceeding with the discussion, he outlines the familiar Marshallian exposition of the equilibrium theory of value. He seems to be in sympathy with this, and yet he is reluctant to part company with the labor theory. As he states in the preface, he favors a synthesis of the labor theory and the marginal-utility theory of value. A successful synthesis has not yet been achieved, but the Ricardian and Marxian analy-

7. Pages 220, 221, 228.

8. For a more extended discussion of Marx's theory of value, see M. M. Bober, *Karl Marx's Interpretation of History* (Harvard Economic Studies, vol. xxxi).

9. Pages 230-232.

sis is full of vitality, and is destined to contribute largely toward this end.¹

His theory of distribution exhibits the same leaning toward Marx. The marginal-productivity theory of wages is in the main correct; but it leaves out of account a vital factor, the relative strength of the employers and the employees. This factor is the heart of his own theory. The demand for labor power and the supply of it do not play the principal rôle. The unequal position of the bargainers determines the degree of exploitation, and consequently the wage level. Thus in the early phase of capitalism wages sank to the subsistence level; but later, as the laborers gained in might because of organization, protective legislation, and a more congenial public opinion, exploitation abated, and the wage level rose at the expense of the employers' gains.² Precisely what sets the upper limit to wages he does not specify. In his summary he adds other determining factors, such as the productivity of labor, the number of laborers, and their standard of living. It cannot be said that there is a vigorous and well-knit theory.³

His theory of interest is no more incontestable. Capital, as a general economic category, is defined as the produced means of production. In the formation of capital, labor is the sole agent; saving receives no mention. He admits that there is a kernel of truth in the productivity theory of interest, but makes the just remark that it fails to explain why interest must be paid. He dismisses the abstinence theory with the remark, common to Marx and Lassalle, that it is ridiculous to think that the millionaire abstains when saving part of his income. He criticizes Böhm-Bawerk's view of man's inclination to prefer present goods to future goods, arguing that modern man is rational in his household economy, and provides for future needs without thought of extraneous reward.⁴ It is evident that the author persistently loses sight of marginal savings. In the same vein he urges that capitalistic production, far from being a time-consuming

1. Pages v, vi, chap. 9.

3. Pages 421, 422.

2. Pages vi, 417-420.

4. Pages 484-493.

undertaking, tends to hasten the process: witness the American city which is built up in less time than would have been formerly required for laying out a street or two. Obviously there is a misconception of Böhm-Bawerk's view. He would remind Professor Gelesnoff of the billions of dollars of capital locked up in railways, factories, materials, and appliances, which make possible the rapid construction in American cities.⁵ Marx's exploitation theory, the author concludes, affords the only adequate explanation of interest.

As regards rent, he is a staunch upholder of Ricardo's "most brilliant and most complete" views and of Marshall's amplifications. He exhibits a profound understanding of the doctrine when giving an exposition of it, when criticizing Bastiat and Carey, and when indicating how Marx's extended discussion of the problem is correct where it follows Ricardo and weak where it seriously deviates from him. In the last analysis, the foundation of rent is monopoly and possession. If there were enough good land to satisfy the demand of the community, there would be no rent. Likewise, if the state would own and use all the land, the rent on the better land would compensate for the deficits on the poorer land; and when there was a surplus left, it would redound to the benefit of society as a whole.⁶

To summarize, Professor Gelesnoff does not regard the shares of distribution as immutable categories inherent in the very nature of economic processes. They are rather the issue of a particular social organization, and — save for wages — of specific advantages some groups enjoy over others by virtue of possession. Abolish private property, and all will change. Of course a socialistic society will provide for capital; and of course the capital will be productive. You can call it saving and interest — it does not matter. What does matter is the fact that society as a whole, and not favored individuals, will derive the benefits. And if a person insists on seeing interest here — let him. He sees a word, not a problem. The same with rent; the same with profits beyond

5. Pages 494, 137.

6. Chap. 17, pt. 2.

the salary. Private property, the power to exploit, is the tree that bears such fruit.

It is unnecessary to dwell on the other problems dealt with in the book: their treatment is the same in scope and tenor as in the usual European texts. He dismisses as inadequate Marx's labor theory of the value of gold; and he is skeptical about the assumption of banking by the capitalistic state, because of the complexity of banking operations and the peculiar need for dependable and sound management.⁷ He is a firm believer in government construction and operation of railroads, in order to ensure a coördinated plan and adequate attention to general social needs.⁸ A fly, he says, let loose on a map of England would trace the railway net as it has been actually worked out by private competition. He disapproves of the "cosmopolitan idea of free trade" held by the English economists, and accepts List's doctrines.⁹ He argues fervently for labor organization as a vindication of the worth and personality of the workers and as a means of defense against exploitation. He gives little attention to international trade and none at all to public finance.

In the final chapter on consumption he discusses labor budgets, housing problems, consumer's coöperatives, and crises. He follows closely Wesley Mitchell in delineating the phases of the business cycle. In his subsequent discussion of the various theories of crises he records express disagreement with Sismondi's and Rodbertus's underconsumption and overproduction doctrine, failing to add, however, that Marx too advanced such a view. He assures us that the more serious existing theories of crises are, and the final future solution of the problem will be, rooted in premises embodied in Marx's "acute observations" concerning the deeper nature of capitalism: the complete absence of social planning, the supremacy of profits as a guide for the entrepreneur, and the private appropriation of the fruit of "social" production.

The non-radical economist will see fatal weaknesses in some of our author's viewpoints and theories. However, in fairness

7. Pages 334, 338, 313.

8. Page 365.

9. Page 393.

to Professor Gelesnoff, it must be emphasized that the caliber of the book as a whole is much above such flaws. Throughout, it displays a keen mind, wide learning, and a good acquaintance with the writings of European and American economists. It is shot through with pregnant remarks, interesting discussions, and able criticisms. It is the work of a mature economist, who is as solicitous about the welfare of the masses as he is suspiciously uneasy about the wealthier groups. The categories and the patterns are old; which indeed seems to be the case, except for some faint attempts at new departures,¹ with all the economics now taught in Russia. But as regards the basic viewpoint, Marx is apparently Alpha and Omega.

1. See, e.g., A. Tschayanoff, "Zur Frage einer Theorie der nichtkapitalistischen Wirtschaftssysteme," in *Archiv für Sozialwissenschaft und Sozialpolitik*, li, 577-613.

M. M. BOBER

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SENIOR'S SOCIAL ECONOMY¹

THE student of the history of economic thought has been feasted by the appearance, in rapid succession, of hitherto unpublished manuscripts, first of Ricardo and now of Senior. The present publication has wrought no revolution in our estimate of Senior in the development of economic science, just as the former effected no radical change in our estimate of Ricardo and of Malthus.² It will serve, however, to direct fresh attention to the many merits of Senior, by bringing together under one cover the thoughts scattered throughout published lectures now difficult to procure, as well as by giving to the world new passages in which Senior emphasized his opinions most fully.

1. N. W. Senior, *Industrial Efficiency and Social Economy*. Original MSS, arranged and edited by S. Leon Levy. New York: Henry Holt and Company, 1928. 2 vols. Pp. xxiii, 375, and vi, 422. \$8.00.

2. J. H. Hollander's introduction to Ricardo's *Notes on Malthus*, p. cxi.

The new material is drawn from two sources: eight volumes of manuscript lectures discovered in the library of the late Mr. J. St. Loe Strachey and other miscellaneous manuscripts; and anonymous articles by Senior, hitherto unidentified. In using these materials for publication, the editor has attempted "to devise a logical method in harmony with the general scheme of the author's economic system, as reflected more or less clearly in his latest works."³ The result is two volumes of fairly continuous but heterogeneous reading-matter, divided into ten Parts, each Part with several chapters, and with main headings and sub-headings interpolated by the editor. For the guidance and satisfaction of the curious reader, an elaborate system of notes is incorporated in the volumes. In the text there are two series of references, one to notes in an appendix to Volume II, the other to notes at the end of each Part. The appendix contains a collection of mnemonic symbols relative to the complete list of materials (in another appendix) used in compiling the volumes, thus enabling the reader to date and locate in the original document every passage in the text. The notes at the end of each Part are exclusively the editor's, and are the means of inserting his commentary whereby he "scrupulously refrained from coloring the author's expressions with his own ideas, if any."⁴ Some of these notes are of interest in so far as they cite parallel or complementary passages from other parts of Senior's literary productions; but it must be confessed that many of them are tiresome, because unduly discursive, or because they express opinions of the editor upon topics only remotely connected with the subject under consideration by Senior and in no way relevant to the interpretation of him. Add to this the continual need of using two appendices in Volume II (with notes upon them!) in order to discover when and where each interesting paragraph, or part of one, was written, and it is obvious that the student's patience and energy will be sadly taxed in reading the volumes.

It is to be hoped that this may be said without appearing

3. Levy, i, p. xv.

4. Ibid., p. vii.

to be ungracious. The editorial effort of Mr. Levy has been a great one, and he was acutely conscious of the difficulties. His task is one almost impossible of achievement. One must regret that he did not content himself simply with writing a prefatory essay to a volume of the unknown lectures. This is all the more true in view of the chief criticism which must be brought against the editorial work; namely, that not a single indication is given of the novelty of the material and ideas contained in these volumes as compared with Senior's previously published writings. Some bibliographical effort is made in an appendix, when indications are given which of the manuscript lectures were published during Senior's lifetime. The student may reasonably expect these indications to be exhaustive, but such unfortunately is not the case. For example, why should the list of "Old Lectures on Political Economy — Published" ⁵ omit the Introductory Lecture of December, 1826, published in the Pamphleteer in 1829? ⁶ It is among the manuscripts used by Mr. Levy. ⁷ Or still more important, why omit from this list such well-known items as the Three Lectures on the Cost of Obtaining Money (published in 1830), or the Three Lectures on the Value of Money (delivered in 1829, published unrevised in 1840), or the Three Lectures on the Rate of Wages (published in 1830)? ⁸ A hint is given by Senior himself, in the preface of the Three Lectures on the Value of Money, that would have enabled Mr. Levy to decide whether these and the Three Lectures on the Cost of Obtaining Money (delivered last, published first) are to be identified with the lectures of 1828-29. ⁹

While I cannot pretend to have collated these volumes with all of Senior's published works, for Senior was prolific rather than systematic, it can be asserted that the greater part of the most significant passages have already appeared in print. Indeed, one may go further and maintain that, on some

5. Levy, ii, 378.

6. Pamphleteer, xxix, 33-47.

7. Levy, i, 61, note 10.

8. Mr. Levy's questions (ii, 381, 382) are answered by the existence of these publications.

9. Levy, ii, 377, LO ⁶ and LO ⁷ respectively.

points at least, the passages in these volumes which purport to give Senior's most mature thoughts show him to less advantage than his already published writings. The following consideration of the major topics in Mr. Levy's volumes will support this view.

The discussion of method in Senior's *Political Economy* is to be commended for its brevity. In the present work, material is included from his later published writings, referring particularly to the classification of political economy in the dichotomy, physical and mental sciences, and to the distinction between science and art. According to the Senior here presented, the sources of premises in all sciences are three: observation, consciousness and hypotheses. It would appear that his controversion of Mill's claim for the hypothetical nature of political economy leads back to this tripartite division. Hypotheses for Senior are "unreal," arbitrarily assumed premises, because he does not ask the question, — which Mill would, — whence the origin of hypotheses, if not from observation or consciousness. In the *Political Economy*,¹ he was content with a twofold division of premises into observation and consciousness; and in his attempt to enlarge upon this, his inferiority to, and misapprehension of, Mill are patent. As regards "art" and "science," Senior thought the successors of Adam Smith were, on the whole, wrong in treating economics as an art. Yet his "science" is widened, on his own confession, to embrace the application of it,² and any difference with Mill — whom he criticizes because "though writing on political economy principally as an art [he] is forced to prefix or to interweave among his precepts, his own views of it as a science"³ — seems to be reduced to the verbal. All his utterances on this topic cannot show his mature view,⁴ and we should have been grateful had it been possible to indicate whether the inconsistencies in the new matter reflect a deliberate change of view or not.

1. *Political Economy* (2d ed.), p. 2. The references are all to this edition.

2. Levy, i, 31.

3. *Ibid.*, p. 27.

4. Cf. *Ibid.*, p. 61, note 10.

No separate section was devoted to the problem of value in the Political Economy, because Senior thought of value, wealth, and exchangeability as synonymous terms,⁵ and therefore his theory of value was included in the part devoted to the Nature of Wealth. In the volumes under review, "Value" is incorporated by the editor in a chapter heading, — following closely, indeed, the title "Exchange, Value, Cost of Production" of one of Senior's lectures, — but the content is not materially superior to the hitherto published thoughts. Happily the passages chosen by Mr. Levy show the merit of Senior — amply recognized by Marshall — in distinguishing the short-run and long-run points of view, and thus avoiding confusions which occasioned much sterile controversy between Ricardo and Malthus. It is clearly stated that the mobility of factors of production is a function of time, and that the effects of changes in demand upon price cannot be generalized without reference to the period of time under consideration. Assumptions made with respect to mobility have occasioned grave misgivings, in more than one mind, concerning the validity of classical economic theory. Senior grapples with these assumptions boldly and does not hesitate to strike out anew in the face of authority, as can be gathered from the assertion that "Adam Smith's remark that of all luggage man is the most difficult of removal has ceased to be true."⁶

Just as Senior avoided gratuitous difficulties by recognizing the validity of both long-time and short-time changes, so he would not admit either utility or scarcity exclusively as the "determinants" of value. In his Political Economy he unequivocally made the demand forces — those that give utility to a commodity — coördinate with the supply forces in determining value. The present compilation merely repeats his well-known division of these two coördinate forces

5. The identification of wealth with exchangeability leads Senior into some difficulties when he comes to distinguish individual and social wealth. See Levy, i, 119, 120.

6. Ibid., p. 341. Cf. Political Economy, pp. 220, 221, where he acquiesces in Smith's view.

into the "intrinsic" and the "extrinsic," those that give utility and scarcity to the commodity whose value is under consideration, and those that do likewise for all other commodities, respectively.⁷ In one instance, however, there is an innovation on the earlier work which appears to reflect an effort on the part of Senior to minimize his differences with his predecessors; for he reconciles his scarcity aspect of value with the labor theory by showing that the scarcity of labor itself is really the important consideration.⁸ Not quite the same view is taken in the *Political Economy*, for there he attacks the labor theory on the ground that it substitutes a partial for a general cause of value.⁹ Perhaps in the earlier period he was conscious of a greater need to emphasize discrepancies between the theories.

Senior's own theory of value shows itself stubborn of application in the illustrations presented to us. In keeping with the emphasis upon scarcity, supply is used to designate the weakness¹ (or the force²) of the obstacles that limit increases in the quantity of a commodity. The labor element enters into his theory of value in so far as these obstacles consist of labor. But the reader will be puzzled to reconcile the declaration that, because it takes three times the labor to produce a coat that it does a waistcoat, therefore coats are three times more limited in supply than waistcoats (irrespective of the fact that the numbers of coats and waistcoats in existence are equal),³ with the statement that the pictures of Hans Memling are far more limited in supply than those of Raphael, tho less valuable.⁴

The discussion of distribution, like that of value, while it directs our attention to spots of interest in the already published ideas of Senior, adds little that is new. Altho taken from the various lectures, the excerpts are often identical with the *Political Economy*. And again it must be remarked

7. Levy, vol. ii, chap. 1.

9. *Political Economy*, p. 24.

2. Levy, i, 116.

4. *Ibid.*, p. 118. It is "Hemling" in the text, a type of misprint which occurs too frequently in the volumes.

8. *Ibid.*, i, 118.

1. *Ibid.*, p. 14.

3. *Ibid.*, p. 116.

that Senior is shown to greater advantage in the last-named work than in the loosely connected passages of these two volumes.⁵ We are grateful to Mr. Levy for the passage, relegated to a note,⁶ which shows, as was strongly emphasized in the *Political Economy*, that the rent of land is only one species in a large genus.⁷ The differentia of the species within this genus relates to motives, to the existence or non-existence of a tie between the income and the "will or exertions of its recipients."⁸ It is true that the rent is paid to the landlord "for not having withheld what he was able to withhold"; but the degree of his yielding up is not a function of his return. This part of the case for the separate treatment of rent is not pleaded in Mr. Levy's volumes; and the attempt to include land under capital, which is inconsistent with it, is not even listlessly made in the *Political Economy* as it is in these volumes.⁹

The theory of profits (interest) calls for little comment here. It is a gross misnomer to apply the caption "Theory of Profit" to the few muddled statements included under it.¹ However little we may be enamored of Senior's theory of profits, some account must be taken of his careful and highly hypothetical argument ("in which the most monstrous assumptions are made")² concerning the thesis that the causes which decide the rate of profit "depend on the proportion which the supply of capital employed in providing wages bears to the supply of labour,"³ before it can be maintained

5. The main discussion of rent is in the chapter curiously entitled "Real Wages and the Modes of Consumption" (Levy, ii, 262-264).

6. *Ibid.*, p. 273, note 1.

7. Cf. *Political Economy*, pp. 89-92, 128-130, 139.

8. *Ibid.*, p. 139; and cf. Levy, ii, 33, note 22.

9. The distinction between capital and land is considered in Levy (vol. i, chap. 4, pp. 146-150), but the arguments for the inclusion of land in capital, promised on page 150, are not forthcoming later. See the bare statements on pages 156, 166, and 178. On the other hand, there are indications given throughout the text that Senior recognized the peculiarities attaching to land. Cf. *Ibid.*, i, 234, 235.

1. *Ibid.*, ii, 265, 266.

2. E. Cannan, *Theories of Production and Distribution* (3d ed.), p. 298.

3. See *Political Economy*, p. 199 and pp. 188 ff., for the discussion.

that his mature thoughts are presented. Here there is not even a glimpse of that supply-price view of profits indicated in the statement, "both high wages and high profits have a tendency to produce their own diminution."⁴

The theory of wages as presented in these volumes does not do justice to Senior. The four chapters⁵ devoted to the subject are unequivocally bad. If Professor Taussig had written with only these before him in 1895, instead of the *Three Lectures on Wages* and the *Political Economy*, he would not have called Senior a most acute critic of the wages fund.⁶ The passages incorporated in the first two chapters⁷ are intended — according to Mr. Levy's captions — to set forth the causes affecting the demand for labor and the supply of it, respectively. Actually, they consist of extremely discursive matter which, when it is pertinent at all, refers to differences in wages rather than to the rate of wages. In his *Political Economy*, Senior at least distinguished explicitly these two aspects of the problem.⁸ The source of the material of these two chapters is surprising. The one on demand is taken almost exclusively from a solitary manuscript lecture given in a course of several in 1851-52, and it is entitled "Cost of Gold."⁹ Mr. Levy remarks upon its solitariness, and hazards the guess that the rest of the lectures given were old material.¹ Surely it must be obvious that Senior used his already published *Three Lectures on Wages* (1830), which it is by no means justifiable to ignore in any representation of his best thought.

The other two of the four relevant chapters are more pertinent to the problem of the rate of wages. They put on record Senior's dissent from the cruder wage-fund theories and the

4. *Political Economy*, p. 140.

5. Levy, ii, 235-272.

6. *Wages and Capital*, p. 197.

7. Part 9, chaps. 2 and 3.

8. Even the discussion of differences in wages is much less complete than in Senior's other works, for no distinction is made between differences due to causes "inherent in the employments themselves" and those due to the immobility between groups. Cf. *Political Economy*, p. 217.

9. Levy, ii, 376, LN²⁴.

1. *Ibid.*, p. 382, note 5.

subsistence theory.² The argument, however, is fragmentary, and the passages strung together have neither the cogency nor the freshness of the Political Economy. It is barely stated that the proportion of the number of laborers employed in producing commodities consumed by the laborers has an important bearing upon the rate of wages,³ but the direct connection of this with the "productivity theory," which occupied such a prominent place in Senior's thought, is not shown explicitly as it is in the Political Economy.⁴

Greater justice is done to Senior in the section on population. There are manuscripts dating from his second appointment at Oxford, indicating that Senior did not remain satisfied with his early published lectures. Those lectures embodied a partial dissent from the doctrine of Malthus, a dissent that Senior in correspondence seemed to withdraw after consideration of Malthus's amended views, with the words, "Our controversy . . . has ended in material agreement."⁵ Mr. Levy accepts this profession.⁶ Some doubt exists, however, whether Malthus disavowed as much of his doctrine as Senior supposed, and whether the disavowal did leave them in substantial agreement. For Malthus appears to cling tenaciously to the idea that a fall of wages is at some point necessary to induce the kind of restraint he had in mind;⁷ whereas Senior sees restraint induced by opulence, because "as wealth increases, what were the luxuries of one generation become the decencies of their successors."⁸ In the Political Economy, Senior reverts to the old controversy; and that his mind is not easy on the question of identity between their views can be seen from the statement that, altho "Malthus's

2. Levy, vol. ii, pt. 9, chaps. 4 and 5, especially pp. 253 and 255.

3. *Ibid.*, p. 254.

4. Page 183.

5. Two Lectures on Population, appendix, p. 87.

6. Levy, i, 365, note 9.

7. Cf. Two Lectures on Population, appendix, p. 70: "And the question is whether we are entitled from past experience to expect that this [retardation in the rate of increase of population] will take place without some diminution of corn wages and some increased difficulty of maintaining a family."

8. Two Lectures on Population, p. 35.

opinions appear to have been considerably modified during the course of his long . . . career," even the last edition of Malthus's work is open to the construction that the principle of population is "an insurmountable obstacle to the permanent welfare of the mass of mankind." ⁹

The unrest, it seems, continued in Senior's mind. While substantially all the views in Mr. Levy's compilation are contained in the earlier works, there are some points here which indicate his continued independence of thought. There is an ominous reference to the broader moral aspects of the preventive checks. Already in the *Political Economy*, in considering abstinence from marriage as the only significant preventive check, "marriage" was defined as "any agreement between a man and a woman to cohabit under circumstances likely to occasion the birth of progeny" and was not restricted to the "peculiar and permanent connection which alone, in a Christian country, is entitled to that name." ¹ In 1849 he goes further and is inclined "to disregard, as forming no part of the elements which an economist has to take into account, the question whether the prudence by which marriage has been retarded or prevented has or has not been accompanied by strict morality." Therefore "prudence" is substituted for "moral restraint." ² There follows material from the same lecture to show "the great difference between the proportion of births to marriages in different countries," which is not due to differences in age (as Malthus "seems to suppose"), or in climate, or in wealth, or finally in ratios of mortality. ³ No reason for the diminution of the ratio of births to marriages in France in the preceding twenty years is offered. Must the reader make his own inference?

Almost half of the second volume is devoted to money and credit, and foreign trade. In the case of the former, the selections are chiefly from the early published lectures, with some additional passages from two articles in the *Edinburgh Review* of 1843 and 1846. In the case of foreign trade, ⁴ Mr.

9. *Political Economy*, p. 45.

2. Levy, i, 296; cf. also p. 301.

4. *Ibid.*, ii, 145-217.

1. *Ibid.*, p. 35.

3. *Ibid.*, i, 296-298.

Levy relied mainly upon articles in the *Edinburgh Review* of 1841 and 1843, the familiar *Lectures on the Transmission of the Precious Metals*, and the *American Slavery* (1856). There is a very great deal of duplication with Senior's known work, and yet no effort has been made to ensure that these passages cover all the important parts of Senior's theory. For example, the significant passage in the *Political Economy*⁵ where the different effects of prohibitions upon imports are distinguished, according to whether the goods affected are produced under increasing or decreasing returns, appears to have been omitted. And yet this is probably a doctrinal contribution of Senior. On the other hand, the passages given show some development in Senior's ideas, and offer the possibility of attributing to him at least the germs of ideas that have subsequently occupied a large place in economic analysis. The statement that the whole quantity of money in a community depends "partly on the average proportion of the value of his income which each individual habitually keeps by him in money"⁶ contains an idea that has assumed considerable importance in Mr. Hawtrey's monetary theory. And by the pointedness with which he refers to the effect of a spirit of speculation, in times of rising prices, upon the relation between the change in price and the change in supply, both in the case of money and of any other commodity,⁷ one is reminded of the occasions in recent years when more than one economist has emphasized this same point.

The greatest service rendered by Mr. Levy's volumes lies in the last Part, on the functions of government. The material is a pot-pourri drawn from many sources, of which the most interesting is either from hitherto unpublished manuscripts or from unidentified publications. Among the latter a review of Mill's *Principles* in 1848 is foremost. Henceforth the picture of Senior as a person entrenched in the reactionary doctrines of ruthless *laissez-faire* should be discredited. He had a low opinion of the existing poor law,⁸ he was against family allowances,⁹ he detested paternal despotism,¹ and he

5. *Political Economy*, p. 178.

7. *Ibid.*, pp. 108, 129.

9. *Ibid.*, p. 324.

6. Levy, ii, 82, 83.

8. *Ibid.*, p. 317.

1. *Ibid.*, p. 332.

was often wrong upon the desirability of government interference. In every case, however, it was after an honest weighing of the evidence and not because he was against government activity as such. Under the influence of Mill he based government interference with industry upon expediency, recognizing that the onus of proof lay upon those who would interfere. There may be errors of excess or defect; government "may be passively wrong as well as actively wrong." But he was certain that "the most fatal of all errors would be the general admission of the proposition that government has no right to interfere for any purpose except for that of affording protection, for such an admission would prevent our profiting by experience, and even from acquiring it."² This was wholesome food for the Victorian statesmen who were at Oxford in the middle of the century, and his teaching undoubtedly bore fruit.

Unstinted praise may be accorded the wide philosophic vision of Senior on these matters, without fear of eviscerating our condemnation of his foibles. Mr. Levy marvels that in some respects Senior's mind was overpowered "by the predominant theological doctrines of his generation."³ This is the Senior who could write, "The principles of physical science have been worked out by man; those of morals are revealed by God";⁴ and who, in reflecting upon the problem of population, could argue for a beneficent Providence who "has ordained the existence of landlords" to ensure that the land shall be "occupied by only the number of persons necessary to enable it to produce the largest possible amount beyond their own subsistence."⁵ It is to his credit that such thoughts show us the least familiar Senior. He who reads Mr. Levy's volumes will become aware of the existence of a greater Senior, even tho he will not see the finest.

These volumes are far from making it superfluous to turn to the less accessible publications. Indeed, the student who would know him will lose little if he confines himself to the works that Senior saw fit to print. Yet Mr. Levy's work is

2. Levy, ii, 302.

4. *Ibid.*, p. 196.

3. *Ibid.*, i, 275, note 57.

5. *Ibid.*, p. 309.

not unavailing, if it reminds students how much there is in Senior. Innumerable questions other than those raised here, concerning the new material in this compilation and its significance, will arise in the mind of the conversant reader. The real service still remains to be rendered by someone learned in the history of economic thought, who will be stimulated to digest the ideas of Senior and assign him his place in the development of economics.

REDVERS OPIE

HARVARD UNIVERSITY

NOTES AND DISCUSSIONS

THE THEORY OF COMPARATIVE COST ONCE MORE

THE theory of comparative cost has suffered several severe attacks in recent times. I shall consider two of these. (1) It has been denied that international trade is governed by the principle of comparative cost; and this not only in the sense that the terms of international exchange are not exactly determined — already Mill has pointed out that comparative costs fix only the *limits* and must be supplemented by another principle in order to locate the exact exchange rate within the limits — but in the sense that in international trade a stable equilibrium is thinkable and often realized, which contradicts the principle of comparative cost. The contention is that it may happen and does happen that a country exports commodities in which it has a comparative disadvantage, measured in labor costs or in any other way, and imports articles in which it has a comparative advantage; both without any forces being invoked (for example, specie flow or alterations of the foreign exchange rate) which would correct the situation in accordance with the comparative-cost principle. (2) It has also been denied that international specialization along the line of comparative cost would result in an increase of aggregate production, as calculated in commodity terms.

On the other hand, the principle of comparative cost is still the basis of quite a number of important contributions. For example, Professor Taussig's monumental work on International Trade — undoubtedly the outstanding achievement in this field since the well-known papers of Edgeworth in the *Economic Journal* (1894) — runs in terms of comparative cost. It may be true that the point of equilibrium in inter-

national trade can be determined¹ without reference to comparative cost; but I am convinced that for a rational decision between free trade and protection (to take one phase of concrete application) the principle of comparative cost is of decisive importance so far as the economic aspect is concerned. In view of the great theoretical and practical significance of the question, no obscurity should be permitted, and I venture to take up the case once more before the bar of science.

(1) Professor Angeli takes the critical position first mentioned. Unfortunately, even so sincere an admirer of his *Theory of International Prices*² as the present writer cannot find his criticism very clear. Yet I hope to be more fortunate than Professor Viner³ in ascertaining what he means.

The principle of comparative cost may hold in a barter economy, Professor Angeli says; but in our money economy trade is governed and directed by money prices. In order to induce exchange, *comparative cost advantage* must be transformed into *absolute price advantage*. In this transformation process — performed by the price-labor relation in each country and the exchange rate between the two countries — the cost relation may be distorted in such a way that a *comparative* (or even an absolute) *real cost advantage* is transformed into an *absolute price disadvantage*, and vice versa. Take, for instance, the following case ("granting for convenience a labor theory of value"):⁴

	Days of labor producing a unit of	
	M	N
In Country A	10	15
In Country B	12	20

Here A has a comparative cost advantage in N (for $\frac{1}{10} < \frac{1}{12}$) and should therefore export N and import M. But if we as-

1. For example, Marshall, Money, Credit and Commerce, p. 162, or Edgeworth, "The Pure Theory of International Values," Papers Relating to Political Economy, ii, 32.

2. Harvard Economic Studies, vol. xxxviii (Cambridge, 1926). The following quotations are taken from pages 372 and 373.

3. See his criticism of Angeli's work in the Journal of Political Economy, October, 1926.

4. To make the example more intelligible, I change Professor Angeli's figures a little, without altering the significant relations.

sume that both countries have the dollar standard and that in each country the price-labor relation 1:1 exists, that is, that in each country the product of n labor days sells for n dollars (a quite legitimate assumption), the above figures are price figures as well as labor-cost figures. "Country A will then have an absolute price advantage in *both* commodities" and "instead of its being true that A will import M and B export it, just the contrary will be true." It is not a sufficient answer to this, Angell contends, to say that specie flow will take place and will bring prices into harmony with the comparative cost advantage. This might be true where trade is composed of two articles only; but where many enter, there is no *a priori* reason for holding that the *aggregate* balance of payments will be altered to the necessary extent. For some articles specie flow may convert the comparative labor advantage into an absolute price advantage, but for others just the opposite situation will quite certainly appear. Angell concludes that "we need not pursue this argument further." But if we take the liberty to probe a little deeper, we easily discover a very good argument for the proposition which Angell denies, namely, that a stable equilibrium can exist only if each country has a *comparative cost advantage* in *all exported articles* in respect to *all imported commodities*.

Returning to our previous numerical example, we have to ask how the deficit in the balance of payment of Country B , caused by the fact that, having higher prices, it imports M and N , could be wiped out — obviously the necessary condition to establish stable equilibrium. The most plausible answer seems to be this: Suppose there are two other commodities, O and P , where just the opposite cost relations hold; then we have:

	M	N	O	P
Country A	10	15	12	20
Country B	12	20	10	15

Now, M and N would be exported from A , and O and P imported, and stable equilibrium is possible. But this result is quite in harmony with the comparative-cost doctrine, for A has now an advantage in both M and N (not in N only, as

before), in comparison with *O* and *P*. (In this particular case, indeed, it has even an absolute advantage. The reason is that the same price-labor relation in both countries can persist only if each country has an absolute advantage in some commodities over the other country.)

The example can readily be generalized. Let $a_1, b_1, c_1 \dots$ and $a_2, b_2, c_2 \dots$ denote the number of labor days necessary to produce a unit of the article *A, B, C* . . . in Country *I* and Country *II* respectively. Let $p_{a1}, p_{b1} \dots$ and $p_{a2}, p_{b2} \dots$ denote the domestic supply prices of *A, B* . . . and l_1 and l_2 the price labor relations in Country *I* and Country *II*. Then we have (always "granting for convenience a labor theory of value") the equations $p_{a1} = a_1 l_1, p_{b1} = b_1 l_1$ and $p_{a2} = a_2 l_2 \dots$. If r equals the number of money units of Country *II* exchanged for a money unit of Country *I* (rate of foreign exchange), and if we consider that trade is guided by price differences, we may say: for each commodity exported from Country *I* the inequality holds, that is, $a_1 l_1 r < a_2 l_2$; and so for each imported article: $b_1 l_1 r > b_2 l_2$. Or, a little rearranged: for exported commodities $\frac{a_1}{a_2} < \frac{l_2}{l_1 r}$; while for imported commodities, $\frac{b_1}{b_2} > \frac{l_2}{l_1 r}$. And therefore: $\frac{a_1}{a_2} < \frac{b_1}{b_2}$. In words: *Country I has a comparative advantage over Country II in each exported commodity in respect to each imported article.* Q. E. D.

To be sure, the line that separates export from import articles (designated by the quotient $\frac{l_2}{l_1 r}$) cannot be drawn, if we know only the costs of production. But we do know that it must be drawn in such a way that no country has a comparative advantage in any import article over an export commodity. And what else is the meaning of the comparative-cost doctrine?

From these considerations it follows that the indeterminateness that induced Mill to supplement the principle of comparative cost by the equation of international trade and the respective demand schedules goes even further than Mill believes. Not only are the exchange ratios of import and ex-

port goods not fixed, but from pure cost data we cannot infer which articles will be exported and which imported. This is, however, not the point that Angell has in mind. It is by no means a serious criticism, only an elaboration of the classical theory.

(2) Closely connected with this is the point that has been raised by Mr. A. F. Burns in a note in this Journal (May, 1928, page 495). Taking up an argument of Pareto's, he denies that a *complete* specialization between nations along the line of comparative advantage (Country *A* produces exclusively *N*, and Country *B* only *M*) results under all circumstances in a net surplus of output. From this he seems to infer that the theory of comparative cost cannot be invoked to support the doctrine that free trade among nations benefits all countries.

Now, the first proposition is perfectly true, but it conflicts with the comparative-cost theory only if we interpret the latter in a very literal and narrow way — sticking closely to the numerical examples given by Ricardo and Mill. Suppose that a very big country (say, the United States) and a very small one (Luxembourg) are entering upon trade relations. America has an absolute advantage in wheat and steel, and a comparative advantage in steel. It would certainly be absurd to conclude that it is to the benefit of America to give up entirely the production of wheat and to specialize in steel, turning out a huge amount of steel and importing the negligible quantity of wheat which Luxembourg is able to produce. What would happen according to a fairly interpreted comparative-cost doctrine is obviously this. Luxembourg would specialize in wheat, and the United States would shift a corresponding (small) amount of its productive forces from the production of wheat to the production of steel. It need scarcely be pointed out that such a partial specialization must result in a net aggregate surplus production of both articles, if the country chooses, while in the case of complete specialization, even if the country *would*, it *could* not always arrive at a greater aggregate product. Therefore partial specialization leads always to a more attractive combination, while under complete specialization this is not necessarily true, as Mr.

Burns has demonstrated. If many commodities enter international trade, the point loses much of its significance, for only *one* commodity — the commodity at the margin of import or export — can be produced in *both* countries (assuming, of course, constant costs).

A much more serious objection is the one advanced by Pareto, by Professor Viner recently in his brilliant criticism of Angell's book (p. 622), and by Professor Mason in his suggestive article, "The Doctrine of Comparative Cost" (in this Journal, xli [1926], 63); namely, the objection that the comparative-cost theory builds on an old-fashioned and abandoned labor theory of value. But, cautiously formulated, our doctrine may escape even this dangerous criticism without losing its importance, as I shall try to show on another occasion.

GOTTFRIED HABERLER

UNIVERSITY OF VIENNA

THE NEW FORM OF THE BANK OF ENGLAND RETURN: AN HISTORIC CHANGE

IN view of the recent amalgamation of the British Treasury note issue with the Bank of England note issue, under the new Currency and Bank Notes Act of 1928,¹ the Return of the Bank of England for the week ending November 28, 1928, was looked forward to with the greatest of interest in the city of London. When it appeared, the city was much surprised to find that the Bank's Court of Directors had taken the opportunity to make certain outstanding changes in the method of presentation. These changes are particularly welcome, have been favorably received both in London and in the provinces, and have made the new type of Return a much more informative weekly account of the Bank's liabilities and assets than that hitherto published on the basis of Peel's famous Bank Charter Act of 1844, which was officially termed "An Account pursuant to the Act 7 and 8 Vict. cap. 32."

1. 18 and 19 Geo. V, c. 13.

The new Bank of England Return is therefore an important landmark not only in the Bank's remarkable history but also in the history of British finance. It is the first to be issued under the new régime of English, as distinguished from Scottish and Irish, note issue,² and it initiates a new, more intelligible, and less conservative method of presenting certain important items. Moreover, the Bank has created an additional surprise by publishing the new Return in two distinct forms: (1) the strictly official form, "An Account pursuant to the Acts 7 and 8 Vict. cap. 32, and 18 and 19 Geo. V cap. 13," which appears in the London Gazette in accordance with the Bank Charter Act of 1844 and the Currency and Bank Notes Act of 1928; and (2) the more detailed form, published in the ordinary newspapers for the information of the general public, in which the Bank, on its own initiative, gives additional information, which it is not bound to give in accordance with the strict letter of the law. The interesting and curious result of this is that, tho two new and improved Returns are now published, the one destined for the use of the public is much more informative than the strictly official one.

These important changes can be more clearly seen by a comparison of the last Return, under the old order, and the two forms of the first Return, under the new régime.

2. This distinction is important. Under an Act of Parliament of the Irish Free State called "The Currency Act of 1927" this state now issues its own coins and bank notes. For a description of the new Irish Free State currency see G. A. Duncan, "The Currency System of the Irish Free State," *Quarterly Journal of Economics*, xlii (1928), 263-277.

The bank notes of the Northern Irish banks of issue are regulated by 8 and 9 Vict. c. 37 (1845), "The Bankers (Ireland) Act," and its amendment 18 and 19 Geo. V, c. 15 (1928), "An Act to reduce and re-apportion the aggregate fiduciary bank note issues of banks in Northern Ireland, and to restrict the circulation in Northern Ireland, and otherwise to amend the Bankers (Ireland) Act, 1845, in its application to Northern Ireland." The banks concerned and the amount of their fiduciary issues are: the Bank of Ireland (£410,000), the Provincial Bank of Ireland (£220,000), the National Bank of Ireland (£120,000), the Belfast Banking Company (£350,000), the Ulster Bank (£290,000), the Northern Banking Company (£244,000).

The bank notes of the Scottish banks of issue are regulated by 8 and 9 Vict. c. 37 (1845), "The Bankers (Scotland) Act."

The last of the old Returns reads thus:

BANK OF ENGLAND

An account for the week ending on Wednesday, the 21st day of November, 1928.

ISSUE DEPARTMENT

Notes issued	£180,964,085	Govt. debt,	£11,015,100
		Other securities	8,734,900
		Gold coin and bullion	161,214,085
		Silver bullion
	<hr/>		<hr/>
	£180,964,085		£180,964,085

Dated the 22nd day of November, 1928.

C. P. MAHON, Chief Cashier.

BANKING DEPARTMENT

Proprietors' capital ..	£14,553,000	Government securi-	
Rest	3,204,147	ties	£48,340,327
Public deposits (in-		Other securities	34,757,491
cluding Exchequer,		Notes	48,161,710
Savings Banks,		Gold and silver coin	870,504
Commissioners of			
National Debt and			
dividend accounts)	14,898,189		
Other deposits	99,472,105		
Seven day and other			
bills	2,591		
	<hr/>		<hr/>
	£132,130,032		£132,130,032

Dated the 22nd day of November, 1928.

C. P. MAHON, Chief Cashier.

Of the two forms of the new Return, we may consider first that published in the Gazette.

BANK OF ENGLAND

An Account pursuant to the Acts of 7 & 8 Vict. cap. 32, and 18 & 19 Geo. V cap. 13, for the Week ending on Wednesday, the 28th day of November, 1928.

ISSUE DEPARTMENT

Notes issued:			
In Circulation....	£367,001,148	Government debt...	£11,015,100
In Banking Department.....	52,087,797	Other Government securities.....	233,568,550
		Other securities.....	10,176,193
		Silver coin.....	5,240,157
		Amount of Fiduciary issue.....	
		£260,000,000	
		Gold coin and bullion	159,088,945
	<hr/>		<hr/>
	£419,088,495		£419,088,495

Dated the 29th day of November.

C. P. MAHON, Chief Cashier.

BANKING DEPARTMENT

Proprietors' capital..	£14,553,000	Government securities.....	£52,180,327
Rest.....	3,254,001	Other securities.....	33,801,148
Public Deposits (including Exchequer, Savings Banks, Commissioners of National Debt, and dividend accounts)	21,452,051	Notes.....	52,087,797
Other deposits.....	99,564,612	Gold and silver coin.	757,041
Seven day and other bills.....	2,649		
	<hr/>		<hr/>
	£138,826,313		£138,826,313

Dated the 29th day of November, 1928.

C. P. MAHON, Chief Cashier.

The Bank, in accordance with section 10 of the Currency and Bank Notes Act of 1928, was bound to make only the change³ in the Return made necessary by amalgamation of the Treasury and Bank notes. This it has done in the Gazette form of the Return, where the new information is included under the Issue Department. The maximum fiduciary issue of £260,000,000 is stated, together with the backing of "Other Government Securities" amounting to £233,568,550 taken over from the old Treasury Currency Note and Redemption Account. In addition, the notes held in the reserve of the Banking Department are added to the total in circulation, a new item "Silver Coin" appears, and "Other Securities" has been increased to £10,176,193. The inclusion of the item "Silver Coin" in the fiduciary subdivision shows that silver is not used as a metallic backing for the note issue.⁴

The nature of the increase of £1,441,293 in the "Other Securities" item of the Issue Department is not known. This item in the old Return was increased only when the Bank took over, under the Bank Charter Act of 1844, two thirds of the total note issue of the other note-issuing English banks when such issue lapsed through the bank concerned becoming bankrupt, or ceasing to carry on the business of banking, or discontinuing the issue, either by agreement with the Bank of England or otherwise.⁵

It was not until February, 1921, that the last of the other English note-issuing banks (Messrs. Fox, Fowler and Company of Wellington, Somerset) lost the right of note issue upon its absorption by Lloyd's Bank. The Bank of England, how-

3. Section X of the Currency and Bank Notes Act of 1928 reads thus: "The form prescribed by Schedule A to the Bank Charter Act, 1844, for the account to be issued weekly by the Bank under section six of that Act may be modified to such an extent as the Treasury with the concurrence of the Bank consider necessary, having regard to the provisions of this Act."

4. The Bank is, however, still allowed, under 7 and 8 Vict. c. 32 (1844), s. 3, to use silver bullion, up to "one-fourth part of the gold coin and bullion at such time held in the Issue Department," as part backing of its note issue.

5. 7 and 8 Vict. c. 32, s. 5.

ever, did not make use of its power to increase the Issue Department's "Other Securities" during the war period and for over four years afterwards. Thus this item remained fixed at £7,434,900 between July 29, 1914, and February 12, 1923. But on the latter date the Bank added £1,300,000, a sum equivalent to two thirds of the total of all the lapsed issues of the other English banks of issue between the outbreak of the war and the absorption of Messrs. Fox, Fowler and Company in 1921.

When this was done the total of the Issue Department's "Other Securities" stood at £8,734,900, and it was generally understood that it would remain fixed at this amount. This increase, therefore, does not represent any lapsed issues. It is, as is evident from the second of the new Returns dated December 5, 1928,⁶ subject to variation in accordance with the amount of notes in circulation, and it may possibly be an additional security of commercial bills. What, however, is clear is that the Bank will now always specify the exact amount of government securities held by the Issue Department.

These are the only changes made in the official or Gazette Return. In it, the method of presenting the section appertaining to the Banking Department remains unchanged.

6. In the Return dated December 5, 1928, the Issue Department's "Other Securities" stands at £10,176,975, an increase of £782 over the previous week.

Next we consider the popular, or what might be termed the unofficial form of the Return.

BANK OF ENGLAND

An account for the week ending on Wednesday, the 28th day of November, 1928

ISSUE DEPARTMENT

Notes Issued:		Government Debt ..	£11,015,100
In Circulation	£367,001,148	Other Government	
In Banking De-		Securities	233,568,550
partment	52,087,797	Other Securities	10,176,193
		Silver Coin	5,240,157
		Amount of Fiduciary	
		Issue	£260,000,000
		Gold Coin and Bul-	
		lion	159,088,945
	£419,088,945		£419,088,945

Dated the 29th day of November, 1928.

C. P. MAHON, Chief Cashier.

BANKING DEPARTMENT

Proprietors' Capital .	£14,553,000	Government Securi-	
Rest	3,254,001	ties	£52,180,327
Public Deposits —		Other Securities:	
(including Exche-		<i>Discounts and Ad-</i>	
quer, Savings		<i>vances</i> £13,586,293	
Banks, Commis-		<i>Securities</i> 20,214,855	
sioners of National	21,452,051		
Debt, and Divi-			
dend Accounts)...		Notes	33,801,148
Other Deposits:		Gold and Silver Coin	757,041
<i>Bankers</i> £62,379,409			
<i>Other Ac-</i>			
<i>counts</i> 37,185,203			
	99,564,612		
Seven Day and Other			
Bills	2,649		
	£138,826,313		£138,826,313

Dated the 29th day of November, 1928.

C. P. MAHON, Chief Cashier.

This, while incorporating the above alterations, also makes two striking changes in the Banking Department section, indicated by the items here italicized. The first is the division of "Other Deposits" (the deposits of the Bank's private customers, hitherto given as one total) into (1) Bankers' and (2) Other Accounts. This classification is of outstanding importance. The new item of Bankers' Deposits is a valuable index to the total amount of the balances of the other British banks and to the possibilities of credit extension — assuming, of course, that this item, which undoubtedly includes the balances of the ten great London clearing banks, and the Provincial, Scottish, and Northern Irish banks, does not include the balances of overseas banks.

If this new and valuable piece of information [states the Economist⁷ in commenting on this important change] is to have its full value in clarifying the whole credit situation, the clearing and other banks have to play their part and must divide their cash items into "coin," "notes," and "balances at the Bank." The Bank of England deserves the thanks of the economic world for throwing light upon what hitherto has been a dark corner.

The second change in the Banking Department Section occurs under the heading "Other Securities." This item is now divided into (1) Discounts and Advances, and (2) Securities. Here we are given another valuable key to the general monetary situation, for the amount of Discounts and Advances is an indication of the borrowing of the money market at the Bank.

As a result of these innovations in the Banking Department section of the Return, it will in future be possible to discover not only the extent of the weekly variations in the bankers' balances, but also the extent of the weekly variations in the total indebtedness of the money market to the central institution.

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